

Original Correspondence.

PRACTICAL PAPERS ON COLLIERY OPERATIONS—No. XIV.
THE DUTIES AND RESPONSIBILITIES OF COLLIERY MANAGERS CONSIDERED,
AND THE QUALIFICATIONS NECESSARY FOR THEM TO POSSESS.

SIR.—The manager of a colliery at the present time is supposed to have unlimited power in conducting operations both above and underground, and to be in a position that he can order anything that is necessary for the safety and security of those engaged under him; therefore the responsibility rests upon the manager if life be sacrificed or injury sustained through his incompetency. If he fails to provide the workmen with all the necessary materials for safely conducting the various mining operations, and loss of life should be the consequence, or through either of the before-mentioned causes life should be lost, he is liable to be indicted for manslaughter if the charge can be brought home to him. If he violates the rules laid down for the guidance of colliery managers and others, he is liable to be summoned before the magistrates for each offence. It sometimes happens that proprietors and managers of collieries are summoned before the magistrates for slight offences compared with those they know to exist, and see going on unheeded at other collieries. This is not meant to imply that the Government Inspectors act in a partial manner, but that evils exist which the present staff of Inspectors are unable to detect, from their number being inadequate to the task of inspecting the number of collieries requiring inspection. But the punishment the manager receives from these sources is only slight compared with the agony of mind and remorse of conscience that must be experienced by those who have been the cause of the pinching and pressing wants of hunger being felt by the fatherless children and bereaved widows through the loss of those who ought to have been their protectors and supporters. This is painful enough to contemplate upon when only one or two families are thus rendered destitute and dependent upon the parish or friends, and when the loss of life has been occasioned by pure accident, but not to compare with what occurs when scores of once happy families are rendered dependent upon the generosity of a feeling and generous public, or consigned to the workhouse, and this, too, through the incompetence or negligence of a colliery manager. It is true the consciences of some of the colliery managers of this country do not appear to be so finely moulded as to be materially affected by the circumstances adverted to, but, for my own part, I envy not the mind and feelings of those who can pass over such trials with seeming indifference, and without allowing them to act as a warning in subsequent operations.

A colliery manager is also expected (and reasonably so) to manage the collieries under his charge in such a manner as to produce a good yearly profit for the proprietors, besides bringing back the capital expended in establishing the collieries,—a not very easy task in all cases, from the unhealthy competition that is now to be encountered on all sides, and which appears to be almost necessary to the existence of Englishmen of the present age. More baneful results appear to spring out of the present race of competition in the commercial world than almost all other evils combined. The manager is further expected to be as firm in mind as adamant, and as pliable and plastic as clay, in order to meet the various temperaments and dispositions of those engaged under him. Unless he be to some extent possessed of these opposite qualities he is liable to be imposed upon on the one hand, or to be in constant broils with the workmen on the other, and be exposed to ruinous strikes, which prove disastrous alike to employer and employee. He is also expected to perform the delicate and sometimes almost impossible task of giving satisfaction to both employer and employee, and to act as the connecting link between the two parties who, unfortunately, are so often widely estranged from each other. He, in short, is held responsible for all that affects the management of the collieries under his charge, and the safety and security of the workmen engaged under him. A colliery manager who would rise to the head of his profession must have a knowledge of paleontology, mineralogy, and geology. He must be a mathematician, arithmetician, and geometer. He must be equally well versed in the laws of mechanics, hydrostatics, and pneumatics. He must be a surveyor and draughtsman, and be acquainted with the prices of everything connected with a colliery, from a pound of nails to the value of an estate of 1000 acres, rich with mineral wealth. Above all, he must be thoroughly practical, without which the most intimate acquaintance with all the sciences named will be found of little service in the management of collieries. He must not consider himself too good to work, either physically or mentally, or consider it beneath him to make the strictest examination into the smallest matters, either above or underground. Many men of undoubted ability and good practical knowledge have failed to realise the expectations of their employers and others from sheer idleness, or a desire to do nothing that required physical exertion. Every-day experience confirms the fact that nothing great can be attained without labour, application, and self-denial.

It is not only possible that collieries can be managed by individuals who know little or nothing of science, but that they are sometimes well managed by those who are only one grade above the common miner is a well-known fact; but these are only isolated and exceptional cases, and do not in the least disprove that those who are capable of performing such tasks would have been much better qualified had they been acquainted with the previously-named sciences. Nature is sometimes so bountiful in bestowing her gifts, that men can and have accomplished great things by the strength of their extraordinary natural talents, with a very slight education, as is evidenced in the cases of Brindley and Stephenson, than whom none have done more in raising their country's greatness; but it is neither wise nor politic to trust to all being Brindleys or Stephensons, for probably not more than one of such men appears in a generation upon the world's stage. I think most will be found to agree with me that the practical man who has an equal share of scientific knowledge with the one who has only the scientific part of it must be infinitely better suited for the responsible position of a colliery manager. So with the one who is devoid of scientific knowledge, and trusts entirely to practical experience, must be much more liable to err in his judgment and decisions than one who has an equal share of practical experience combined with scientific attainments. The thoroughly practical man stands a much better chance of successfully managing a colliery, however illiterate he may be, than the purely scientific man, who has trusted to book learning and experiments. The mine is the proper place for the colliery manager to graduate in; by so doing he not only obtains a thorough practical knowledge, if he be of a thoughtful and reflective disposition, but he becomes inured to the dangers and toil that he cannot by any possibility free himself from in after life, should he act and do his duty as a colliery manager.

My suggestions upon this subject are that all coal proprietors should voluntarily agree to have a halfpenny per ton levied upon all coal sent to bank. Assuming that 72,000,000 tons of coal are annually raised; this would produce a sum of 150,000/- per annum. This amount, if judiciously spent in aiding and assisting young men who have worked in the mines for a period of six or seven years would be far more than adequate to prepare an efficient and well-qualified staff of colliery managers from those who had displayed some talent, or shown a strong desire to improve themselves. Difficulties might arise in the selection of claimants, and favouritism might exercise its influence, but these and minor difficulties might easily be overcome. Two years' training in a mining college, under the direction of competent tutors, would effect a wonderful change in the character of young men who had displayed talent and ability whilst in the capacity of colliers and assistants. When it is remembered that the sum named is insignificant compared with the difference that exists in the cost of getting coal when the operations are conducted by a thoroughly competent person, and by one who is incompetent or neglectful of his duties, the wonder is that this step has not been taken long ago.

It is admitted on all hands that the colliery managers of this country are very incompetent as a body, some possessing scholastic and scientific attainments and not the slightest practical knowledge. This class of colliery managers, although bearing the name, are in reality no managers at all, but depend upon the judgment of subordinates, and may fairly be said to manage by proxy. This class is extensively represented by individuals placed in their position by favouritism or influence, or they are relatives of the proprietors, and, as if the duties of colliery manager were insufficient to require the undivided attention of one person, they generally mix up the duties of corresponding clerk and cashier with those of manager—duties as alien from each other as are those of the mathematical instrument maker and the surveyor. There is another class of colliery managers, only one grade above the miners they direct in point of intelligence, and whose sole ambition appears to be to send out the most coal they can in the least time, and avoid paying the miners for any extra work they happen to have performed beyond that of getting and sending the coal to the main wagon-road. These two classes of colliery managers are, in a

measure, necessitated to adopt the plan of screwing down the workmen to the utmost, in order to compete with those whose superior judgment enables them to dispense with the necessity of proving by experiment the best way of conducting operations.

If all the material used and cut to waste at collieries so managed could be valued, or heaped together, and the facts presented to view, it would have a salutary effect upon those proprietors who employ such talent. And yet this is as nothing compared with the amount wasted in doing work that is worse than useless, and in many instances doing the same work twice over. This is nothing unusual, as will be seen from the following remarks. A short time ago I visited a colliery, and whilst looking over it I saw an incline tramroad that had been cut a considerable distance to take the coal from a new pit; the pit frame, tipplers, &c., had been put up, and the necessary convenience made for loading the coal, was discovered when the wagons were attempted to be put under the tipplers that either the road was too high or the tipplers too low. I enquired from a man who was taking the rails up, with a view of lowering them, how the oversight had occurred, and what the proprietors would say if they knew it? He replied, "Oh, it is very well; this is only the second time of it being done. I have known work done three or four times over at this colliery before it could be made to answer."

Sometimes collieries are managed by viewers, who have a great number of collieries under their charge. It is not many weeks since it was stated upon the best authority that there are viewers who have collieries under their supervision that are raising 5000 tons of coal per day. Surely, if men can be found with brain and mind capacious enough to keep the thread of the workings of so many collieries in their mind's eye, and show themselves equal to the task of successfully managing so many collieries, besides spending one-half of their time in travelling and attending to other business, they must be pre-eminently fitted for managing collieries that raise 500 or 1000 tons per day, and with the advantage of being resident upon the spot. So long as collieries are managed upon such principles, it is mere mockery to speak of science having attained its limits in colliery management, and a libel upon common sense, justice, and reason. The most clever, indefatigable, and active-minded man that ever lived is unequal to the task of keeping in his mind the information necessary for the successful management of collieries producing the quantity of coal spoken of, whilst it would be equally impossible to perform the physical labour required. I do not suppose that much difficulty would be experienced in meeting with individuals who would undertake the responsibility of managing collieries producing 10,000 tons of coal per day, providing proprietors would offer a suitable and tempting bait. It is truly surprising to see with what avidity and eagerness men seek to hold situations when they must be fully aware that they neither possess the necessary qualifications nor tact for fulfilling the duties required of them. It is no uncommon circumstance for 400 or 500 applicants to apply for a situation of colliery manager in answer to an advertisement. Not 10 per cent. of the persons who applied for a situation of colliery manager a short time ago could in all probability have managed an extensive colliery at all, if left to themselves. And I am speaking on the safe side when I say, from all that could be learned of the applicants from their letters, &c., not 2 per cent. of the number were capable of performing the duties of colliery manager in a manner that would have done them credit.

It is not only very wrong but wicked for men to seek to hold situations they are not qualified or fitted for, when the lives of their fellow-creatures depend upon the due performance of duties that they cannot by any possibility perform. The duties of a colliery manager, if I entertain correct ideas upon the subject, are both numerous and somewhat difficult of being performed. I deem it essentially necessary for the manager to be on the works each morning before labour commences. If the works are concentrated, it gives him an opportunity of seeing all that is going on, and sets an example to the officials under him. If the works are scattered, he can pay his morning visit to each portion of them in turn. If he is always on the works, or even expected, the men will not be seen straggling to their work half an hour or so behind time three or four mornings a week. He should encourage the workmen under him to inform him of any danger that may exist, and not to treat them so that they are afraid to speak of anything they see going wrong for fear of offending him or the officials placed between him and the workmen. No one abhors tale-bearing more than myself, but when the interests of the concern, or the safety of the workmen, are endangered by silence being maintained, receiving communications from the workmen upon such subjects cannot be classed under that head. So soon as he is apprised of any danger existing, he should lose no time in having its source removed, as running risks will never make a colliery remunerative, if it is not so without. A colliery manager should examine all the underground workings from time to time, at such intervals as to never lose sight of what is going on underground, any more than above. He should never place too much confidence in the statements of others, when he has an opportunity of examining for himself.

The physical exertion and risk necessary to undergo in making underground inspections, and the general uninventing appearance of the mine, act as the greatest barrier to scientific men becoming better acquainted with underground operations. If a colliery could be examined glove in hand, and without soiling the fingers and apparel, or daylight be introduced into the mine, we should have our collieries far better managed than at present; but as it is simply impossible to take away the risk and exertion consequent upon the examination of a mine, it is important that all who hold such situations should be prepared to comply with the inconveniences, &c., of making frequent inspections in a manner that will admit of no doubt of the works being both safely and systematically conducted.

It is the duty of the colliery manager to either dial the workings, or see that a proper mineral survey is made at stated times, and that the whole of the workings are mapped upon a suitable scale. It is the duty of a colliery manager to make himself conversant with all the faults, strata, and peculiarities of the district he is located in, if any peculiarities exist, so that he will be enabled to avoid spending money in the fruitless effort of trying to find coal where it does not exist, or only at inaccessible depths. He should study economy in all its bearings; more depends upon the economical working of a colliery than most are aware of. Attending to small items of outlay, and to the material used at a colliery, will often make the difference between its being remunerative or otherwise. All materials should be used up or disposed of. I have known scores of pounds worth of materials to lie at collieries for such periods that, had they been converted into money when they became useless, it would have reproduced them. I am quite aware that it is sometimes convenient for managers to keep their old lumber, and make it appear in the books as useful plant, in order to show a fictitious profit, or bolster up their own credit; but this only adds evil to evil. It will generally be found that where no regard to economy is paid the workmen are less cared for, and every advantage is taken of them that can be. A workman can only have justice barely meted out to him; if anything more be done for him, in the majority of cases, he will take advantage of those placed over him.

A colliery manager should purchase most of the articles used at a colliery, and what he does not purchase he should examine and see for himself that everything is bought at the best market. A great evil appears to have found its way into this department of colliery management, by tradesmen making presents to or bribing (for it is nothing better) those who have the power of giving orders. I have frequently been pressed to receive presents from tradesmen, and when I have remonstrated with them for the want of principle they have displayed in offering bribes, their invariable answer has been—We could not do business at all at many collieries if we did not act so. Wherever this system is practised it must be attended with great evils, for the proprietor must pay to the tradesmen what he gives to the manager; not only so, but the tradesmen sell that which he otherwise would be unable to do—an inferior article—probably something that the security of human life depends upon; the manager sells his independence to the tradesman the first time he receives a present. How men placed in such responsible positions can be found to barter away their own independence, and act the part of a knave towards their employers, and in some cases place the lives of the workmen in jeopardy, seems strange; for my own part I would not sell that spirit of independence that I possess for all the filthy lucre that could be offered me. I had intended to have entered more fully into the duties of colliery managers, but find that my paper has already exceeded its length. In conclusion, I offer the advice that one and all of us use our best efforts to remove the stigma of ignorance and incompetency that has attached itself to our characters as a body, by paying every attention to the acquisition of knowledge bearing upon the management of collieries, either directly or indirectly; and let employers give every encouragement and assistance in aiding the present colliery managers in improving themselves, and fitting the rising generation for becoming better qualified than even the most favoured of the present generation are; and the necessity for legislative interference will be found to decrease as intelligence amongst the managers increases. JOS. GOODWIN.

VENTILATION OF COLLIERIES.

SIR.—In reference to the plan of forcing air into mines by means of air-pipes, allow me to say that the idea is very old. I am not aware of its having been tried, but for the sake of satisfying all such mistaken philanthropists, I hope Mr. Hughes will succeed in getting it thoroughly tested. Allow me to ask that gentleman whether he has personally ever examined a large pit in full operation, seen the pillars in process of removal, and the adjoining goaf edges. As a practical man, it is to me very absurd, setting aside all questions of cost, which are nevertheless of great importance.

C. V.

MINING MACHINERY.

SIR.—This subject being just now one occupying public attention, may I ask you to publish the following remarks, which I have extracted from a lecture delivered by Mr. James Sims, the celebrated engineer of Redruth—than whom few are more competent to give an opinion? MINER.

"Respecting the operations underground by the working miners, there have been occasional enquiries. Why not bore the ground, or rather the rock, by steam-power? I fear that mechanical genius cannot do much for them, it being a peculiar sort of work, having to bore holes in almost every direction, and, therefore, the inconvenience of placing or fixing a machine would be great, or if it could be brought to work, the idea of placing a steam machine underground would be out of the question. The only thing that has occurred to me as at all likely to do would be to have a strong air-tight vessel at the surface, into which common air should be forced by any available surface power, such as the pumping-engine, whim-engine, water-wheel, or any other power, and to open such a pressure in the air vessel as might be necessary to work a small machine, and underground, by compressed air acting on the top of a small piston; the power of this air should compress the air under the piston, and the instant the air above the piston is exhausted by a small valve for that purpose, the compressed air underneath the piston would strike a very forcible blow. The pipes for conveying the air from the air vessel at the surface, where they are fixtures to be iron, and where movable to be gutta percha. The air discharged at every stroke of the little machine would, no doubt, be of considerable benefit to the miners. I wish it to be understood that this is merely a suggestion, and, if it does no good, it is probably harmless."

VOLCANIC ACTION.

SIR.—Having observed volcanic (igneous) phenomena accompanying the falling and sliding of immense masses of rocks,* we are compelled to ascribe at least some portion of the igneous phenomena that accompany the ejection (by volcanoes) of considerable masses of rocky, &c., substances, likewise to the frictional heat which arises from the motion, and is in proportion to the bulk and the rate of motion of such masses. Altogether, if we attempt to estimate the amount of heat that may be created by friction, by chemical action, ignition of pyritous substances, of hydrocarbon, solidification of water and gases, &c., and take into consideration the immense quantities, met with almost everywhere, of such "pyrophoric" substances, we ought, indeed, almost to be surprised that the heat which accompanies real volcanoes is not much greater than it really is, and that hot springs and "volcanoes" emitting water and mud are the rule, and such as emit molten rocks the exceptions; and, considering the progress made in natural philosophy, in chemistry, &c., it is indeed surprising that there should still be so many geologists who prefer being mystified by considering the assumption of a "central fire" as a fundamental hypothesis in "orthodox" geology. Believers in that "fundamental" hypothesis must certainly find it rather strange that Professor Ehrenberg should have discovered organic remains in the products of volcanoes of almost all parts of the world, such as amongst others, being silicious skeletons of water plants.

On a future occasion I shall attempt to give a few remarks on the mineralogical composition of, and other particulars relating to, volcanic products. G. J. G.

VOLCANIC ACTION.

SIR.—I have been much interested of late in reading several articles on Volcanic Action in the Journal, and the discussion between Messrs. Hopkins and Barnes. It may perhaps throw some light on the subject to refer Mr. Barnes to a recent paper read before the British Association at Manchester by my friend, Mr. Robert H. Scott, on the Origin of the Granite of Donegal, where he will find that recent chemical analyses tend to prove that it is impossible that that granite can have been subjected to the action of fire, and that another cause must be sought for to account for the various geological features presented there, and confirming Mr. Evan Hopkins's assertion that the igneous theory is about (time for it) to give way to more scientific and reliable grounds for accounting for the several changes in the crystallisation of the primitive rocks, now classed under the convenient heading of metamorphic. As this subject is one of deep interest to practical miners, I shall venture a few observations which have occurred to me in a recent visit to the Giant's Causeway, and shall be obliged if some of your correspondents will favour me with an answer to two questions—first, the chemical analyses of the basaltic porphyry forming the different beds; and next, the supposed origin of the chalk formation, shown on the geological map as underlying it? Being myself convinced of the whole formation here being simply the decomposition and fresh semi-crystallisation of the bands of porphyry forming the eastern portion of the primitive rocks of the North of Ireland, traced through the counties Derry, Monaghan, and Armagh, I shall be glad to be favoured with any information as to the supposed origin of the volcanic forces thought to have caused the igneous formation of the basalt, and their position. As to the igneous iron formation, beds of which, both magnetic and otherwise, are found in this district, having raised some thousand of tons of iron ore, formed entirely from aqueous sources, I am more inclined to favour the views of Mr. Evan Hopkins. As to the question of its magnetic qualities, it is quite unconnected with its igneous or aqueous origin.

"A. B." in the letter following "Volcanic Action" in the Journal of Aug. 31, states that he is not a chemist, and yet proceeds to give a chemical theory capable of producing any results, and gives an example of quartz veins losing themselves in the granite. Now, by reference to Mr. Scott's paper, he will find that this is only one of the various phases of the chemical changes that occur in the production of granite. The remainder of the letter of "A. B." shows the power of the imagination when excited by Plutonic fires.

GRANITE.

MINING IN FLINTSHIRE—THE IGNEOUS THEORY.

SIR.—In the Journal of Sept. 7, a correspondent calls attention to the mines of Flintshire, and gives some account of the Talargoch veins, near Prestatyn Station. It just reminds me it is one of the most apt illustrations in limestone for throwing some little doubt on the igneous theory. The vein is in mountain limestone, in one of those beautiful crops on the sea coast. If you go back a few miles just above Cwm, where the overlie of the green rock shales join the limestone, you meet with two north and south courses, with a small east and west vein intersecting them, in which, on the walls of the lode, by the action of carbonic acid, the lime beds are changed into iron ore. The vein carries iron ore, the courses carbonate of lime. This, in the first place, is chemical, any other heat would reduce it to lime. The courses carry off the small lode, and following them on the surface of the limestone, they are again intersected by the Talargoch lode, which is magnetic west, carrying lead, zinc, and iron ore, or rather lead in a matrix of carbonate of lime and clay, with masses of carbonate of zinc. At the intersection Talargoch carries the two courses west, and both join until they reach the stratum skirting the limestone. During their junction, and until they reach the adjoining shales and gravelly stratum, where the best working part of the lode is found, they spread out, and on the north wall have large reaches or pockets of clay and cubes and stones of lead ore (similar to the reaches in the carbonate of iron ore veins). No doubt it will go down with equal returns as deep as the limestone, which is, as far as we know, about 500 yards, without its shales. The courses when they come to the solid strata take their own strike again, magnetic north.

Had there been any sulphurous or igneous action, here certainly was the place to show it. In this open intersection of two large lodes, one coming from the coal measures with changes in the strata, must, if there existed anything of the sort, made way for an exhibition of its forces. The lodes show no sign or appearance of any such heat, neither does the stratification through which they pass. Chert is always found on the edge of beds of limestone in similar veins, and the whole is purely a chemical combination in their matrixes of lead and zinc; and it would certainly be a great stretch of the imagination to suppose any combination of sulphurous heat could have the slightest affinity, or could in any possibility be combined with pure carbonates in forming metalliferous lodes, caves in veins, even supposing such a thing did exist, but like "the upheaving of the superincumbent masses," it most certainly is only imaginative.

I would recommend the "Flintshire Miner" to go to the Little Orms Head, and examine north and south course passing through that crop of the limestone. It is upwards of 20 yards wide, the matrix carbonate of lime. If he can say what underlie it has, what throw, the ore it carries, what are the strata between it and the sea to the east, which wall of the

* One of your correspondents, in No. 1360, forcibly connects my remarks on frictional heat with trap-dykes: I hope, for his own sake, that he will not take similar liberties with phenomena observed in nature.

vein is down?—all necessary principles for miners to exercise their imagination, without troubling themselves about internal heat, aqueous and igneous action, and like nonsense, that is only heard of from the imaginative brains of men who know nothing about his business. Just look at the Exhibition at Manchester, if he knows anything of the sandstones and coal measures; the savans' description of them, and the conglomerates, will be quite sufficient to convince him it is really imaginary. I do not see why the "Flintshire Miner" should have any objection to mining further west, or south-west. Some of the veins are quite equal to Talaroch, and precisely the same matrix and mineral. Certainly, at present, some of the landed proprietors will not grant leases, because it spoils the beauty of their estates, but that is not the case in all lordships, where veins to surface show very good prospects—in fact, are the same lodes in continuation.

Did your correspondent ever hear of or see a place where "carbonate of lime was extracted from a solid mass, and replaced by iron pyrites?" With your permission I will notice this in my next.

G. ATTWOOD.

Great Salkeld, Penrith, Sept. 17.

TREATMENT OF POOR COPPER ORES.

SIR.—In last week's Journal I observe, in your Notices to Correspondents, an enquiry respecting my patent process for treating ores containing asper, tin, silver, and sulphur. It is well known that ores are sometimes unevenly balanced in their constituents that it is difficult to determine whether they can be most profitably dressed for copper or tin, and a considerable amount of the cost is incurred in calcining such ores. This subject has received much of my attention, and I have found that such ores may be profitably treated by grinding and calcining with common salt. The course I pursue is to grind the ore sufficiently fine to pass through a ten-hole sieve. I then calcine the ore until there remains only about 4 per cent. of sulphur; I then withdraw the ore from the furnace, and mix it with rock salt ground fine—for every 1 per cent. of sulphur remaining in the burnt ore I add 4 per cent. of salt, and calcine the mixture. The furnace I use has two chambers, with one fire; the raw ore is put into the chamber furthest from the fire, and the partially calcined ore and salt is placed in the chamber nearest the fire. When the mass ceases to give off chlorine, or hydrochloric acid, or sulphurous acid, the process is complete. The calcined mass is then put into vats, and covered with hot water, which will dissolve the chloride of copper and chloride of silver, when these metals exist in the ore, which is almost universally the case in the copper ores of Cornwall, the absence of silver being the exception. Having obtained the liquor, which will be of a green colour, and perfectly clear, I run it into a second series of vats, in which scrap iron has been placed, the silver and copper is precipitated; the residue is then dressed for tin. It will be found that the tin ore will be exceedingly pure; in fact, equal to the finest stream tin. I strongly recommend my brother Cornishmen to a careful consideration of the subject I have endeavoured to elucidate. When I apply my process to the manufacture of sulphuric acid, I isolate the second chamber, and connect it with a leaden chamber in the usual manner.

JOHN LONGMAID.

AURIFEROUS STEEL.

SIR.—In last week's Journal I find a rejoinder from Mr. Webb to my letter which appeared on Sept. 7, in which he is pleased to say that my answers are "a series of bold assertions." I beg to inform that gentleman that my "bold assertions" are all based on actual fact—iron made on a manufacturing scale, examined, tested, and its improved qualities admitted by some of the most eminent manufacturers of iron and steel in the United Kingdom. It has also been submitted to chemists of the highest reputation, it has been analysed by gentlemen well known in London for their ability, and my auriferous alloy has been pronounced to be possessed of qualities hitherto unknown.

In reply to Mr. Webb's remark, "I defy him to produce a ton of his alloy which shall correspond within 30 per cent." This is indeed a *very bold assertion*, and added to his other *bold assertions*, proves that he knows but little of the subject he has undertaken to discuss. My patent alloy has all the ordinary qualities of iron and steel, it presents the same homogenous appearance, it has increased ductility, tenacity, and density, which is capable of undeniable proof.

Mr. Webb is rather unfortunate in his arithmetic when he asserts "he proposes an alloy containing sixty-seven one millions of an ounce (I presume of gold) in each ounce of iron;" these proportions do not correspond with one in one hundred and forty (140,000) thousand, which he rightly stated a few lines above is the proportion I use, and which exactly correspond with $\frac{1}{4}$ oz. to 1 ton. Now, sixty-seven parts of gold to one million parts of iron is equal to about 2-69 ozs. gold to the ton. Mr. Webb then goes on to state that I also proposed to apply sixty-seven one hundred millions of gold, which is a much less quantity than I recommend.

Again, Mr. Webb *boldly asserts* "the only advantage that can accrue from Mr. Longmaid's process is because the addition of the gold is insufficient to deteriorate the metal, for it should be remembered that he infers the alloy of pure iron and pure gold." Now, this inference, *this bold assertion*, has no foundation whatever, except in Mr. Webb's fertile imagination. I am well aware there is no such thing in commerce as chemically pure iron. Mr. Webb also *boldly asserts* there is great difficulty in mixing iron and gold; I beg to assure him the difficulty he has imagined does not exist in fact, nor is there any extra cost beyond the cost of the gold, and its preparation before it is put into the furnace; and for Mr. Webb's further information, it is not the practice in the manufacture of iron "to have many consecutive melting"—in fact, after the metal has passed from the puddling-furnace, it is never melted.

Mr. Mushet and Mr. Bessemer are gentlemen who have enlarged our knowledge of the manufacture of iron and steel, and I most heartily wish them all the honour and profit to which their services in the cause of science so richly entitle them.

JOHN LONGMAID.

AURIFEROUS STEEL.

SIR.—Mr. Webb wishes to know what would be the effect of adding 67 parts of titanium to 999-933 parts of steel; there would, no doubt, be an improvement in the quality of the steel. Similarly when a fly settles on a horse's back it adds to the load sustained by the horse, but the improvement in quality in the one case, and the addition to the burden in the other instance, are alike too insignificant to be estimated by either human or equine perceptions. When I first read Mr. Longmaid's patent I supposed that it was a burlesque upon the numerous steel and iron patents, "my own amongst the number, *quorum magna pars fuerunt*, which have been taken out, and I thought his recommendation to put as little as possible of the precious metal into the steel was an excellent idea, and one which could not be too strictly adhered to. But it seems Mr. Longmaid is in earnest, and has been the first to apply the homeopathic doctrine to metallurgical processes. There is a pleasing originality about the new process, which is refreshing to contemplate. Other inventors try to anamass gold out of their steel operations, but Mr. Longmaid boldly strikes out a new path, and invests his bullion in the steel itself, but wisely putting in very little, and as wisely inculcating on manufacturers the indisputable truth—that the less you put in the better. It is quite certain that steel owes its properties, in contradistinction to iron, to the presence of alloys or mixtures of foreign matters, existing in minute proportions. Thus a careful analysis of cast-steel made from the best Danemora iron showed that $3\frac{1}{2}$ lbs. of carbon communicated the hardening property to 1000 lbs. of such cast-steel. Now, if only 1 lb. of carbon had been present in 1000 lbs. of this steel, the steel would have been merely semi-steel, and incapable of hardening; and had 7 lbs. of carbon been present in 1000 lbs. of this steel, the steel would have been so hard, and so closely allied to refined metal, as to have been unworkable. So that very small proportions of carbon affect very powerfully the value and properties of steel. Titanium also has a marked effect upon steel, even more powerful than that of carbon, and 1 lb. of titanium in 1000 lbs. of steel would very perceptibly elevate the quality of that steel, but when the alloy is confined to millionths parts of the steel the improvement can only be estimated by the excited imagination of a self-deceived but enthusiastic inventor.

Perhaps one of the most remarkable discoveries of the present day is that of Mr. Bessemer—that 1 lb. of silicon, in alloy with 2000 lbs. of Bessemer metal, will make the latter be quiet in an ingot mould, in place of boiling over. Here, as in Mr. Longmaid's process, Mr. Bessemer wisely prefers to put in very little of his specific; and here, likewise, the policy of a homeopathic dose of silicon is unquestionably sound. Unfortunately

for Mr. Bessemer's discovery, the fact remains that if manganese without silicon be added to Bessemer metal the metal lies quiet in the mould, but when silicon is added without manganese the metal boils over. Now Mr. Bessemer adds both metals together—an alloy containing a great deal of manganese and a very little silicon; and it really does appear just possible that the manganese, and not the silicon, is the potent spell that exercises the rebellious metal in this case. However, it would be satisfactory to set the question at rest, and as there is a very abundant alloy of iron and silicon now in the market, and which does not contain manganese, I would suggest that Mr. Bessemer should try the soothing effects of 30 or 40 lbs. of this alloy upon 1 ton of his metal, in place of the manganese alloy. The silicon alloy I allude to is called Cleveland pig-iron, and being rich in the former valuable metal, it will, I have no doubt, prove highly efficacious.

I believe Mr. Webb has been misinformed as to the method by which Mr. Bessemer manufactures his steel. He does not, I think, employ the old system; but in place of that, he remelts the direct Bessemer steel in crucibles with manganese and charcoal, and thus produces an excellent steel, which has been deservedly esteemed for many purposes, though it is by no means equal in quality to that prepared on the old plan from converted marks of Swedish bar-iron.—*Coleford*, Sept. 18. R. MUSHET.

THE WINDING-UP ACT.

SIR.—In the present state of commercial morality it is patent to the world that when the originators, promoters, and directors of limited companies have obtained the purchase consideration, and made all they can out of the concern, if the undertaking does not suit their private interests, or answer the sanguine statements put forth in their prospectus, reports, and advertisements, they wish to avoid the payment of calls, be free from the responsibility and anxiety of management, and as they are deeply interested in *hushing* up the affair, avoiding the courts of law, and escaping publicity, they have recourse to a *voluntary winding-up* of the company; they get *themselves* and their *officials* appointed *liquidators*, they make a call on the contributors, they sell the property of the company at a mere nominal price to a nominal purchaser, in order to make a more favourable arrangement among themselves for future operations, they close the business, and the merciless *Winding-up Act* leaves the *deluded* shareholders *minus* all they have paid; and if those directors have kept within the parliamentary enactments, although the shareholders lose all, they have no remedy. I omit, for the present, all comment upon the conduct of these honourable gentlemen, and restrict myself to the following observations, to which I invite the attention of all persons who, like myself, have suffered heavy pecuniary loss by placing confidence in directors, in the statements of a prospectus, and in the weekly flattering reports published by the secretary or officials of a company.

Let the shareholders understand that the prospectus and reports put forth by the directors of a public company, limited or unlimited, are, in fact, a *warranty*, and all shares applied for, or subsequently purchased, are accepted under the terms and conditions of a contract set forth in the published advertisements of the company, from which no departure can arbitrarily be made without invalidating the whole agreement; and if the advantages or statements offered to the public prove *untrue*, the allottee or purchaser, having paid his money, is protected by the law; and so soon as the falsehood or deception is exposed he has his remedy. Every prospectus, every statement, and every report emanating from the directors, secretary, manager, or captain of a mining company, must maintain perfect truthfulness; and every person becoming a shareholder on the faith of these public documents being true, enters into a valid and binding contract with the company, and any *deception* or *dereliction* in the performance of the terms or conditions by the said company is a *release* from the *payment of calls* in favour of the *shareholder*, and he may recover the money he has paid under false representations. A public company may be altogether *bona fide* at the beginning, but the directors may tamper with their constituents by not carrying on the business of the company in a proper manner, or by doing it under circumstances known to be improper or unfavourable, and in this way the shareholders may be victimised, in which case it is right they should know the law provides a remedy.

A VICTIM.

PATENT ABUSES.

SIR.—Patent matters being at present much under discussion, I shall offer a few remarks upon one of the worst abuses of the patent system—I mean the granting of letters patent for the same invention to different parties at different times. I shall first detail a most important case of this kind, wherein the true and original inventor has had the fruits of his labours snatched from him, and bestowed upon a subsequent patentee. On Sept. 15, 1855, Joseph Gilbert Martien filed a patent for decarbonising melted cast-iron, *i.e.*, for reducing it to the state of malleable iron or steel by forcing air or steam under the surface of the cast-iron, so as to rise up amongst the particles of the cast-iron, and penetrate and search every part of the liquid metal. Now, this claim is so simple and palpable, that no rational man could for a moment misinterpret it; for, as the air does rise up and penetrate and search every part of the liquid metal, it must decarbonise every part or particle of that metal, by virtue of the affinity of the atmospheric oxygen for the carbon of the cast-iron. In other words, if the patent claim of J. G. Martien is carried into effect, the metal so treated *must* be decarbonised and, therefore, brought into the state of steel or malleable iron. This is a metallurgical fact, which neither legal chicanery nor patent quackery can set aside or overthrow. Therefore Martien's patent process, filed Sept. 15, 1855, accomplishes, when carried into effect, the conversion of melted cast-iron into steel and malleable iron. All this, which is perfectly plain and, indeed, self-evident, ought to have precluded the grant of letters patent for this identical process to any subsequent claimant. However, it does not appear to have been paid to the officers of the Patent Office, for on Oct. 17, 1855, they granted to Henry Bessemer a patent for "forcing currents of air or of steam into and among the particles of melted cast-iron, until the metal so treated is thereby rendered malleable." That is to say, Bessemer claims the forcing of air or steam amongst the particles of melted cast-iron, so as to reduce the said cast-iron to the malleable state; but if air be forced among melted cast-iron, so as to penetrate and search every part of that cast-iron, that cast-iron must necessarily be decarbonised, and be thereby rendered malleable. Conversely, if air thus forced amongst the particles of cast-iron until that cast-iron is thereby rendered malleable, it is manifest that the air must have penetrated and searched every part of the melted metal, otherwise the said metal would not have been decarbonised as to be rendered malleable. But Martien especially points out that the air is to be applied so as to penetrate and search every part of the melted cast-iron. Bessemer simply points out the same thing in different words. With him the air is to be applied until the cast-iron is rendered malleable; but whenever the air has had time to penetrate and search every part of the melted cast-iron, that cast-iron is rendered malleable; and this is what Martien claims, and he is, therefore, beyond a doubt the original inventor, and the lawful and rightful owner of the pneumatic process. This is, perhaps, the worst case upon record of the injustice of granting a patent twice over.

There is another and more recent instance well worthy of notice, and which strikingly illustrates the carelessness manner in which patents are granted, and the guillotine of the public. On Sept. 22, 1855, I took out a patent for adding to Bessemer metal a metallic compound or alloy, composed essentially of iron, manganese, and carbon. My object was, first, to cure the redshortness of the Bessemer metal; and, secondly, to prevent the occurrence of cells or honeycombs in the ingots of Bessemer metal; and which redshortness and spongy character rendered the Bessemer metal utterly worthless, even as scrap iron. I carried my process into effect, and with perfect success, early in 1857. My claim was for the use of a metallic compound consisting essentially of iron, manganese, and carbon, by whatever means or methods such compound had been prepared. I did not claim any method of producing this compound, but simply the addition of it, either melted, or heated, or in the cold state, to Bessemer metal; and I pointed out that the compound was procurable in abundance by smelting manganese ores of iron in a blast-furnace. Such a compound has for centuries been made in Prussia, and its analysis by a late eminent chemist gave—Iron, 89-15; manganese, 5-03; carbon, 5-12; silicon, 50-99-90. There were also some traces of copper, cobalt, and phosphorus. This was, then, was the compound I preferred to employ, as being readily procurable at a cheap rate of cost; and it was a metallic compound, consisting essentially of iron, carbon, and manganese, and containing, like all other cast-irons, a little silicon. Now, in place of using the compound thus ready manufactured and cheaply procurable, I might have set up a common smelting furnace, and have proceeded as follows to manufacture a metallic compound or alloy of iron and manganese, containing also carbon and a little silicon:—Take 30 to 70 parts of pure iron ore, and 50 parts of grey or black oxide of manganese; or take iron ore containing manganese in place of the foregoing, and if there is no silicon in them (but there always is in all iron ores) add 5 parts of quartz, then add 40 parts of anthracite coal, and grind the whole of this mass into a fine powder under edge runners; then put the mixture into a converting-furnace and deoxidise it; then take it out and mix it with pitch; then melt the mixture in a crucible, into what? Why, into a compound metallic alloy, consisting essentially of iron, manganese, and carbon, and containing also a little silicon. But in place of melting this furnace in a crucible, I may put it into a pot with a tap-hole to it, and keep filling up the pot as the metal flows out. I may also make the pot higher and higher by building on rings of fire-clay to increase its height, and I may do this till it becomes as high as a blast-furnace; and then I may melt the metal in the pot like a blast-furnace altogether, and I may now cease to deoxidise my patent furnace beforehand, for in the blast-furnace the ore are all deoxidised in the upper part of the furnace. In short, step by step I shall have arrived exactly at the point at which the Prussian ironmasters had arrived long before I was born; for they manufacture a compound metallic alloy of iron, manganese, and carbon, containing a little silicon, by operating in a similar manner upon iron ores, oxide of manganese, silica, and carbon in their blast-furnaces. But as I did not wish to make myself ridiculous and my patent void, by pointing out any absurd and roundabout method of preparing the compound, I was content to prefer to use that metallic alloy or compound prepared by smelting its elements in a blast-furnace. An alloy of iron, manganese, and carbon, containing a little silicon, can only be prepared from its elementary constituents by deoxidising and melting them; and when they are deoxidised and melted they produce the same species of compound, whether treated on the large scale in a blast-furnace, or on an experimental scale in a crucible. Now, having patented the use of this alloy, no matter how prepared, as far back as Sept. 22, 1856, I thought myself secure from the assaults of metallurgical quacks and scheming patent mongers; but I was deceived. On Feb. 1, 1861, Henry Bessemer obtained a patent for the use of a metallic alloy of iron, manganese, and carbon, containing also a little silicon, and in every respect identical with the compound the use of which I claimed five years ago, and for the self-same purpose; and in order to disguise the thing, if possible, he tells the

public that he prepares the alloy in the preposterous manner I have detailed. This alloy of iron, carbon, and manganese, and the usual impurity of a little silicon, which is always present in such an alloy, Mr. Bessemer puts into his Bessemer metal in a solid and highly heated state, which is precisely my claim in my patent of Sept. 22, 1856; and he tells the public a cock-and-bull story about 1 lb. of silicon in 2000 lbs. of steel causing the metal to be quiet in the mould, whereas it is the manganese, and not the silicon, which checks the tendency to honeycomb. The only effect of introducing silicon into Bessemer metal without manganese would be to cause all the ingots to crack to pieces, as Mr. Bessemer may prove by putting a few pounds of common silicated pig-iron into a batch of his metal. Thus, not only has my patent of 1856 been granted over again to Mr. Bessemer, but it has passed the Patent Office, though he claims not merely the rejection of the application. When the modest and original genius which so often characterises great inventors again permits Mr. Bessemer to re-patent any of my patents, I hope he will not send them forth disguised in such threadbare garments as the patent I now allude to. I am fully aware that his position and existence as an inventor in steel and iron depends, and will depend, wholly upon what he has picked up, and what he may hereafter glean out of my patents. And if he can stop to this kind of *eleemosynary* celebrity, I do not grudge him the crumbs of my inventions; but he should be content, and employ my ideas privately; it is rather too barefaced to patent them over again, after an interval of only five years, and claim them for his own.

There is a reform set up in Patent Law, which should render it impossible for any man to re-patent the claims of a preceding inventor. Another desirable step would be to compel all inventors to let licenses to parties applying for them; and the most desirable amendment would be that piracy should be deemed in the eye of the law—what it is in reality—theft, and should be punishable by penal servitude, and a confiscation of the property of the thief. There would then be security for an inventor. At present there is scarcely any real security; and the inventor is not only unscrupulously robbed, but in many instances the stolen goods are shamelessly paraded before his eyes by the pirate. The law has provided a remedy, no doubt, but the remedy is, in most instances, worse than the disease. In a subsequent letter I purpose showing the manner in which Martien's process may be brought into general use, so as wholly to supersede the modified method by which it is at present carried into effect by Mr. Bessemer.

Coleford, Sept. 16.

ROBERT MUSHET.

MR. BORLASE'S BUDDLE.

SIR.—Your Truro Correspondent, in his article contained in the *Mining Journal* of Sept. 7, refers to the bundle lately set up in Providence Mine, and which he calls "the independent discovery of Capt. W. Hollow, jun." I wish to correct that statement, by informing your readers that the bundle is the *patented* invention of Mr. Edward Borlase, now at Wheal Margaret, near St. Ives; and that the Providence Company, through their purser, Mr. Higgs, have purchased of Mr. Borlase a license to use the bundles in that mine. Mr. Borlase has also erected one at Wheal Margaret, and is now engaged in erecting another there. In the *Mining Journal* of the 14th inst. it is called "Zenner's rotating frame;" Mr. Borlase is agent for Zenner's bundle, but the erections at Providence and Wheal Margaret are his own invention, and of a *different description*.

Truro, Sept. 18.

A LOVER OF FAIR PLAY.

BRAZILIAN MINING COMPANIES, AND THE SLAVE TRADE.

SIR.—The steps taken by the British and Foreign Anti-Slavery Society are certainly calculated to create anxiety in the minds of shareholders in all companies engaged in working mines in Brazil. By an advertisement in last week's *Journal*, the society cautions the public against embarking in a new Brazilian mining company just formed—the East del Rey—reminding intending investors that Lord John Russell has informed the British Consul at Surinam that "British subjects holding slaves in any foreign country will render themselves liable to criminal prosecution whenever they shall be found within British jurisdiction," and that "it is the determination of Her Majesty's Government to enforce the statutes," which absolutely prohibit British subjects from dealing in or from holding slaves under any circumstances whatever. The position of such companies as are working mines in countries where slavery exists is regarded by many shareholders to be this—if the slaves are held by the company, the shareholders must ever be prepared for the criminal prosecution referred to; and if the slaves are held by a servant of the company not within British jurisdiction the whole of the company's property is at the mercy of an individual upon whom English law cannot be brought to bear.

A. B.

MINES AND MINING IN SPAIN.

SIR.—Having noticed some remarks under this head in the *Journal* of Aug. 10, from your able correspondent, Mr. N. Ennor, I will, by your permission, offer a few brief comments thereon. First, as to the passport system, I would beg to say that I have been in this country now nearly five years, during which time I have visited England once, and travelled some hundreds of miles through this the North of Spain, and as yet my passports have not cost me as many shillings as Mr. Ennor names his being charged pounds; and this, too, be it remembered, by one who on his arrival in this country did not know a word of the language; but by rising early in the morning, and studying for an hour now and then, I have made myself sufficiently master of the language to be generally understood, the lack of which, and the bore of interpreters, may be, in my opinion, the chief cause of Mr. Ennor having been so overcharged. If Mr. Ennor, on his next visit to this country, will visit this the north part I shall be most happy to show him a little copper and sulphur mine, in which the lode has never exceeded on an average 1 ft. wide, and embedded in a hard blue killas, that has paid all costs of working, and left a small profit, and still continuing to do so, under disadvantageous circumstances, which I should be glad to explain; as also that of showing Mr. Ennor winze kibbles, water-barrels, shovels, picks, and wheelbarrows in general use, as much as can be expected in a country where the natives have not been accustomed to

not be so uncharitable as to suppose your scientific correspondent, who has treated the matter fairly and skilfully, intended to set Mr. Smyth and myself by the ears, or that another friend, a week or two back, intended to do the same kind office between Mr. Evan Hopkins and myself. I will just say here that I have the highest respect and friendship for both those gentlemen, to whom I consider the country greatly indebted for their philosophical researches with reference to the crust of the planet we inhabit, and its metallic riches, and if I differ from either of them in any way, I do it with the greatest deference, and many misgivings as to my correctness. In reading the geological condition of the rocks of Cardiganshire from themselves and not from books, I find that the grain of the slate, or length line of the lamination, is nearly the direction that Mr. Smyth takes as that of the bearing strata, but I find no lines of lodes along this line, and I take it to have been the boundary of the range of electricity, or the variation of the needle of magnetic north, if my memory serves, and are parallel to the metallic zones, as I have marked them. The landmarks of this great line of action are the Peaks of Brecon, Plynlimon, Cadair Idris, and Snowdon, and the lesser undulations are lateral, and more or less parallel to this; and Mr. Smyth truly says, "the zones of productive mines will be parallel to the axes of these undulations." I am quite sure that Mr. Smyth and I shall have no strife, although his words seem to convey with reference to the north-east bearing of the metallic strata a meaning different to my own; it may possibly be a clerical error, but I would throw before your correspondent the saying of the wise king—"He who passeth by and smelleth with strife that concerneth him not is like a man that takes a dog by the ears," but I shall always be glad to give him any information, through your columns, on this or any other geological or mining subject with which I may happen to be acquainted.—Aberystwyth, Sept. 18.

MATTHEW FRANCIS.

LIABILITY OF SCOTCH SHAREHOLDERS IN CORNISH MINES.

SIR.—No doubt can exist but shareholders in every part of the kingdom can be compelled to pay their calls under the Cost-book System, which system has received the especial sanction of the Legislature. The effect of the non-payment of calls in the case of the North Downs Wheal Rose is apparent in the advertising columns of the *Mining Journal* of last week. It is to be regretted, for the sake of mining itself, that parties will set the "dog in the manger." In this instance a fearful sacrifice will probably be made, owing to the obstinacy of some shareholders, who profess to have the means, but who object to pay their just claims. Circumstances precisely parallel to those mentioned in the letter of last week, to which I refer, was one of the principal reasons of the stoppage of a promising mine near this place—Carrack Dews. Mr. James Hollow, who, I had hoped, had purchased this mine and its properties as it stood (he is known to me as too good a judge to pick up a worthless bargain, in a country with which he is so thoroughly acquainted), had his intentions frustrated by intermeddling, vexatious shareholders, who would do anything rather than pay their responsibilities. They are precise specimens of the genus "*Haemotimerumens*," humorously described in the *Journal* some time since. Little do these worthies know what expenses they entail on themselves and others by their contumacious conduct, irrespective of the chagrin engendered by seeing their outlay applied to other's profit, or the disappointment suffered in not realising the profits reasonably calculated from such promising speculations as those now and last week referred to.

I hope that strict vigorous means will be adopted to prove in Court the facts of the cases, and that at the termination of the suits ample reports will be inserted in the *Mining Journal*, the extensive circulation of which will render essential service to the deluded as well as to the honest shareholder.—St. Ives, Sept. 18.

A MINE ADVENTURER.

THE SOUTH FRANCES AND WEST BASSET BOUNDARY QUESTION.

SIR.—I think "An Accurate Observer" has fallen into an error in saying that the judges "reversed the second verdict" in the action of *Lyle v. Richards*. The fact is, the appeal to set aside that verdict has not yet been argued, the late Lord Campbell having declined to hear it until the Court of Error had decided whether the question in the first action was one of law or of fact. The Court of Error "confirmed" the decision of the Court below—that is to say, the Judges decided it was a case for the jury, and not for the judge. Under these circumstances, I fancy South Frances has little chance of having the unequivocal verdict of the jury in the action of *Lyle v. Richards* set aside or "reversed," the foreman having clearly stated that the southern boundary line between the West Basset and South Frances Mines was "a line drawn from the south-east corner of J. Vincent's house to the north-west corner of South Wheal Basset sett." LEX. Sept. 18.

AUDLEY MINES.

SIR.—In last week's *Journal* there appears an extraordinary advertisement under the above head, by a mine labourer of the name of James Lawrence, professing to be "in a position to give every particular relating to the appearance and prospects of these mines." Now, if this man ever worked in "the Old Cappagh Mine," he does not appear by his statement to correctly remember the particulars of that mine, and I beg to state that his advertisement is unauthorised. I shall be much obliged by your publishing this letter in your next *Journal*. I beg to enclose you my address.

I have the honour to be, Sir, your obedient servant,

THE PROPRIETOR OF THE AUDLEY MINES.

AUDLEY MINES (COUNTY CORK).

SIR.—I cannot allow the statement of Mr. James Lawrence respecting these mines, in last week's *Journal*, to pass unnoticed, because it is not in accordance with truth. He was employed as a miner but a very short period, and did not, as he states, work there during the whole time they were in operation. These mines were five in number—Cappagh, Filemuck, Bog Mine, Ballycummin, and Horse Island; and I believe I may fully assert, without fear of contradiction, that neither he nor Capt. Wm. Martin (who he states gave an adverse report upon the property) were underground in any but the workings on the eastern part of Horse Island. How, then, can he be in a position to give every particular relating to their appearance and prospects, or pretend to give the precise details of the workings he never saw; or Capt. Martin to make out a true report of them, from the same cause? I had the management of the whole of the mines until the time of their stopping, about eight years ago; not through poverty, but in consequence of proceedings in Chancery having been commenced against them. I closely and carefully examined the lodes, &c., in every part of the workings whilst they were in operation, and also immediately before they were suspended, and the water left in. The Old Cappagh Mine was not cleared up, but considerable trouble was taken to find out the most intelligent and experienced miners that last worked in it, and I took down a statement from them of the principal part of the workings, which was very favourable. I think, therefore, I may safely say that no person can know much more of the mines, upon the whole, than I do. The Ballycummin Mine has since been taken up by an enterprising gentleman, and is now in active operation, with, I hope, good results. The greater part of the lodes also in the other mines are of large size, and will produce rich copper ore and green carbonates. Even in the surface trials, which were made over a great part of the estates, some of the lodes were of the most promising kind, and yielded ores of a very high produce.—Redruth, Sept. 18.

M. EDWARDS.

PROGRESSIVE MINES—WEST WHEAL TREVELYAN AND CARN CAMBORNE.

SIR.—A few weeks since I sent you a few lines respecting Progressive Mines, and stated that, in my opinion, more money might at the present time be made in such as in Dividend Mines. I mentioned a few mines in which I thought, and still think, a great rise will very shortly take place, particularly in Wheal Unity, Great Rotolack, and West Wheal Trevelyan. An advance has already taken place in the two former mines, but a mere nothing to what I am convinced it will be very shortly; and I again recommend speculators to lay out 20/- or 30/- in each without delay. The present letter refers more particularly to WEST WHEAL TREVELYAN and CARN CAMBORNE MINES. I will, therefore, commence with the former, and give my reasons why I consider a great advance in the price of the shares as all but a certainty.

WEST WHEAL TREVELYAN is 58 fms. deep, and is producing copper ore of very rich quality, the last lot having averaged 9/-, 11/- per ton, a price which no other mine realises on that day's sale. The riches of this mine are in the western part of the sett, which is now being vigorously worked under the able management of Capt. John D. Osborn. From the shaft to the western boundary the distance is 250 fms.; and from the following facts it will be seen that the deeper the mine is sunk the richer it gets, and that the length of ore ground increases as the mine increases in depth. Let my readers note well what I shall now state to them, as such a test of the progress of a mine in the right direction is of the utmost importance. In the 20' west the ore ground was only about 3 fms. long; in the 28' it was about 7 fms. long; in the 38' it was about 12 fms. long; and in the 48' the ore ground had already last for 35 fms., and there is every probability of its continuing. Every mine knows the value of the above facts. The 58' is now driving west, and is nearly under the run of ore ground in the 48'. In less than three months I expect to hear that the lode in this bottom level is worth 20/- or 30/- per fathom. A great rise will then take place. The miner knows that not only is this possible, but that it is probable, almost, in short, amounting to a certainty; for it is remembered that the ore ground in the 48' has varied from 5/- to 20/- per fathom; that the deeper the mine gets the richer the ore is getting; and that the 58' is nearly driven to the commencement of this fine run of ore ground. There are also other points to come off in this mine. Now, it will be seen from the above that I do not recommend West Wheal Trevelyan without giving good reasons for doing so. I will conclude my remarks on this mine by extracting from a letter, which I have just received from the captain, the following opinion, and in which I entirely coincide:—"I am fully convinced that the mine is better now than when it was selling for 10/- a share." The present price is about 35/-.

The next mine I shall notice is CARN CAMBORNE, in the parish of Camborne, and surrounded by mines which have produced millions of pounds sterling. Now that its riches are acknowledged, I should think the Cornish speculators are all in a state of amazement that such a piece of ground should have remained unexplored until the present time. It reminds me of the gold fields of Australia, which were never discovered until within the last few years. But "there is a time for all things," and the time for the earth to yield up its riches in Carn Camborne sett has now arrived. The present price, I believe, is about 25s. to 30s. I hold 200 shares, and mean to hold them. I look at Carn Camborne like a good old-fashioned fig-pudding, where the figs were put in the pudding whole; the pudding is nearly covered with the rich fruit, but on the top one is covered by the dough: we remove the surface, and behold the fig—plump, large, and exquisitely delicious. This is Carn Camborne.

I have now particularly called attention to four progressive mines—Wheal Unity, Great Rotolack, West Wheal Trevelyan, and Carn Camborne; and I once more advise parties to speculate 20/- or 30/- in each mine—that is, if they have any money to speculate with, but if they have none I don't give them any advice. Beyond all things, let them be cautious with whom they deal; a trustworthy, respectable agent is a most important person to speculators in mines. Such a person will advise to the best of his judgment, and will act for a client as he would for himself. Speculators must, however, not forget that there is no certainty in mining—it is, strictly speaking, a speculation; but when a fortunate bit occurs, what a haul! Just fancy laying out 20/- in sixty shares in Devon Consols, at about 7s. each (for at such a price they could at one time be bought), and to be able to sell each share at the present time for 350/-, or 21,000/- per lot. The same, in a lesser degree, with respect to Dolcoath, South Cadron, East Cadron, Herodsfoot, &c. I will conclude this letter, as I did my last, by asking.—Is it worth the speculation? I believe it is, and I speculate accordingly. Let my readers refer to this letter in a few months time.—Sept. 18.

AN OLD SPECULATOR IN MINES.

WHEAL ELLEN.—We were, on Thursday, shown some very beautiful samples of copper ore, obtained at a depth of about 180 ft., and consisting of fine stones of copper ore, yielding from 55 to 70 per cent. of copper; the stones consist of a very rich red oxide, and of black and grey ores. The superintendent of the mine, Mr. Hancock, has written a very encouraging report.—*South Australian Advertiser*, July 26.

Meetings of Mining Companies.

GREAT WHEAL VOR UNITED MINING COMPANY.

The ordinary quarterly meeting of proprietors was held at the company's offices, Gresham House, on Wednesday.—Mr. G. NOAKES (managing director) in the chair.

Mr. THURAN read the notice convening the meeting, and the minutes of the last were confirmed.

The CHAIRMAN said that, remembering the position of their undertaking but twelve months since, and contrasting therewith its present condition, whether financially or commercially, he thought proprietors would agree with him that they had good reason for mutual congratulation. From time to time the committee had held out prospects that the property would produce such results as would give proprietors a chance of recovering some proportion, if not the whole, of the capital expended—opinion, he was happy to say, strengthened as the development of their property progressed. They all knew that mining had many vicissitudes, which compelled one to be exceedingly careful in making promises. Therefore, he wished to be on the safe side by advising proprietors not to be over sanguine, but at the same time the committee believed the position and prospects of the company's property were such as to justify the assumption that the most satisfactory results would be secured. Before, however, continuing his observations upon the subject, he would read the report of the committee, which was as follows:—

The committee have the satisfaction to state that the prospects of the mine have materially improved since the last meeting of the adventurers. Great progress has been made in the general development, and the character of the ground throughout is of a nature to strengthen confidence in eventual success. The lode in the 142 east, near the winze, east of the shaft, has separated into two lodes, one taking a north and the other a south direction. The latter appears to be the main lode, and shows indications of a continuous course of ore. At the point of separation, in the bottom of the 142 east, the lode is large, and of a character to give every prospect of its holding down to the level below. Metal shaft has, therefore, been sunk to the 152 with great vigour, in order to prove this ground; and the 152 is now in course of driving, with the daily expectation of cutting the lode. The committee watch this development with anxious interest, for should the lode hold down productive, and a good course of ore be found in the 152, it will materially add to the returns, and brighten the prospects of the adventure. The lode in the 142 west has considerably improved since we last met. The committee consider this also an important point in their operations, as there is a long run of ore ground west. A cross-cut is now in course of driving from the 132, east of Metal shaft, to prove the south part of the lode. Ivey's shaft is nearly completed down to the 100, and it is hoped that by the end of the year the pitwork will be in order, and ready to take the water up from the 100 and relieve Metal shaft, which will more completely ensure the mastery of the water at all seasons. Edward's shaft has been carried down to the 40'. It is now proposed to drive east and west to explore that ground, which is of a favourable character; and should a discovery be made it will be of importance, as it will extend the run of productive ground, which is now becoming considerable. The stopes generally are yielding very well, and there is little doubt but present returns will be maintained, with a good prospect of increasing them. A new feature has opened out since the last meeting of the adventurers, which may enlarge the prospects of the mine. A new lode has been opened upon in the south part of the sett, called the south lode; the character of the ground is favourable for productiveness, and should a new course of the ground be found in this part of the sett it may lead to a considerable increase in the value of the property. The managing director has held several important meetings at the mines, in conjunction with some members of the committee and the agents of the mine, for the purpose of taking into consideration the best course of extending the underground workings for permanent advantage, and it is satisfactory to state that the mode of working the mine has been approved of by Capt. Bryant and Mr. John Petherick, who have visited and inspected the mine. They consider the prospects to be most encouraging. These opinions have been since confirmed by Capt. Lean, who has recently inspected the mine for an independent shareholder. The shareholders will observe that a large portion of the sett is now in course of development. The returns are gradually increasing, and the general prospects are of a most favourable nature. It is with no small satisfaction that the committee feel themselves enabled to lay before the meeting a financial statement, whereby it will be seen that, notwithstanding the great fall in the price of tin in their extended operations have been carried on within cost.

The audited cash account to July 31, 1861, showed a balance in hand of £4624 3 10. Since which date there has been received—Tin sale on Aug. 10 1214 6 8 Tin sale on Sept. 14 1440 11 10 Rent of Trew premises and sundries from the mines 20 8 10 And paid— Total £7299 11 2

Balance (cash and bills) £5982 17 1 The actual account as it stands this day is as follows:—

ASSETS. Balance as above £5982 17 1 Arrears of call still due 17 6 3 Materials sold, but not settled 393 15 6 = £6393 18 10 LIABILITIES. Cost for August £1143 7 5 Sundry accounts, rent, &c. (say) 200 0 0 = 1343 7 5 Balance in favour of the mine this day £5050 11 5

He hoped the report just submitted would prove as satisfactory to the proprietary as it was considered to be by the committee, for recollecting the great vigour and extent with which the mine had been developed, and that such a favourable balance as 5050/- was this day standing to the credit of the company, he thought shareholders would endorse the opinion that their present and prospective positions were equally encouraging. The report from the captain of the mine was as follows:—

Sept. 16.—In the 142, driving east of Metal engine-shaft, on the south part of the lode the lode is 2½ ft. wide, worth about 30/- per fathom. In the 142, driving east of Metal engine-shaft, on the north part of the lode, the lode is 1½ ft. wide, worth 26/- per fathom. In the 142, driving west of Metal engine-shaft, the lode is 2 ft. wide, about 26/- per fathom. In the 132, driving east of Metal engine-shaft, the lode is 2 ft. wide, about 27/- per fathom. In the 132, driving west of Metal engine-shaft, the lode is about 2 ft. wide—poor for mineral. In the winze sinking below the 132, west of Metal shaft, we have not taken down any lode since we commenced to sink; we have only sunk about 3 feet. In the 152, at Metal shaft, we have driven the cross-cut about 5 ft. south; we expect that we shall have to drive from 10 to 12 ft. before we intersect the lode. In the 132 cross-cut we have not intersected any lode or branch since we commenced to drive. We have cased Edward's shaft down to the bottom, and have commenced to drive east for a plat; and after we drive 2 fms. we shall cross-cut south to intersect the lode and explore it; the ground looks very promising for the lode to be productive. We have intersected the south lode at the shaft about 10 fms. deep; the lode is about 2 ft. wide, yielding a little tin, but not sufficient to value; we shall commence now to sink on the course of it. We are making good progress in enlarging Ivey's shaft; we expect to have it down to the 100 this month; we have four men preparing it to put down the pitwork. In the stopes in bottom of the 132, east of Metal engine-shaft, the lode is about 4 ft. wide, worth about 40/- per fm. In Nos. 1 and 2 stopes, in back of the 132, the lode is about 4 ft. wide, worth 36/- per fm. In the stopes in back of the 122, east of Metal engine-shaft, the lode is 4 ft. wide, worth 37/- per fm. Our prospects throughout the mine are looking very encouraging, and our machinery is working very well.—T. GILL, F. F. FRANCIS, S. HARRIS.

A letter was then read, received that morning, from the captain to the effect that the 152 end, on the north lode, had improved very much since the previous day. The north and south lodes had made a little towards each other during the last 6 feet, which led to the belief they would form a junction going east. It was an important fact, in as much as they were approaching under the point where, in the 142, the lode had been worth 300/- per fm. Capt. Gill saw no reason why the lode in the 152 should not prove of equal value to that of the 142.

The report from the engineer stated that they had thoroughly examined the machinery throughout the mines, the whole of which was in good working order.

The CHAIRMAN said with regard to the returns of tin, the committee were by no means anxious to increase them, deeming it of greater importance to so open their mine as to render their profits of a permanent character. They were extensively developing the mine, and were monthly increasing their reserves, and he trusted they would soon see their property in a dividend-paying condition. He thought the facts that had just been detailed gave them every reasonable expectation that the most satisfactory results would be achieved. They had an excellent prospect of meeting with a good course of ore in the 152. In the winze they had a large lode, and at the point of separation was exceedingly rich. It would be recollected that the lode had been separated by a horse of kilns; both parts were productive—one had taken a northerly and the other a southerly direction. The north part had very much improved, and it was thought that those lodes would again form a junction. He did not know that he ought to initiate the consideration that might be taken with regard to their finances—a distribution of a portion of the surplus capital; but whatever decision might be come to, he hoped it would not be done without proper care and reflection. In a company like theirs it was always desirable to keep a large balance in hand, in order to meet all contingencies; and he, therefore, hoped proprietors would be very moderate in their expectations of a distribution of the surplus capital. As far as he was individually concerned, his own feeling was that a distribution of 5s. per share would be sufficient, which would leave a handsome balance to the credit of the next account; in addition to which there was every probability that a small amount of profit would be accumulated every month, so that another distribution might be made.

Mr. DOCKER regarded the position and prospects of the undertaking with the utmost satisfaction, and he thought shareholders could but be much pleased with the efficiency with which the whole of their works had been conducted. He knew that their worthy Chairman had contended against and surmounted many difficulties, and had encountered many trials and anxieties on behalf of the company; which, however, only verified the old adage, that "The tree which bears the most fruit gets the most pelted at." With regard to the distribution, he should have no objection, when the subject came before the meeting, of proposing a distribution of 5s. per share.

The report was then received and adopted, and the accounts passed and allowed.

The CHAIRMAN said the next question was with regard to the distribution—that was a subject entirely for the decision of shareholders; but, as he had already said, his individual feeling was that the distribution should be at the rate of 5s. per share.

Mr. DOCKER, endorsing the opinion of the Chairman, had much pleasure in proposing that a distribution of 5s. per share should be made.—Mr. BIRON seconded the proposition.

Mr. W. HARVEY proposed an amendment, to the effect that the distribution be 7s. 6d. per share. That would absorb 2800/-, and thus leave a balance of 2750/-, which would be a good balance to carry to the credit of the next account; in addition to which before the next meeting there would be accumulated a small monthly profit.

Mr. STAUNTON seconded the amendment.

A SHAREHOLDER thought the recommendation of the committee should be adopted—that a distribution of 5s. per share should be made.

The CHAIRMAN said that he had not put that forward as a recommendation of the committee, but had given it merely as his individual opinion; indeed, some of the committee were of opinion that the distribution should be 7s. 6d. per share. He would rather have preferred two distributions of 5s. at distant periods, instead of 7s. 6d. upon the present occasion. The matter, however, was entirely in the hands of the meeting. He might, perhaps, mention that he held a large number of proxies, but he should not use them in voting upon the present question.

After some further discussion, Mr. DOCKER having consented to withdraw his resolution, the proposition that a distribution of the surplus balance, to the amount of 7s. 6d. per share

CHARLOTTE UNITED.—E. Kendall, Sept. 18: Our new lode at the 50, west of the cross-cut, is very much improved; we broke 1 ton of ore last night from it; the lode is now worth about 5*t.* per fm.; this is looking good.

CLARA.—J. Lester, Sept. 19: I am to-day going to dial the Ponterwyd quarry shaft, levels, and cross-cuts. There is a lode ahead of the forebreast of the cross-cut at the 20, running east and west, which we can, if you please, reach by continuing that cross-cut a few fathoms; I will give you the exact length in my next report. We are getting on well with the work at surface, but there is still a great deal to do to get the rods changed from the 24 to the 32-ft. wheel, to erect the drawing-machine, &c., and to get the machinery in good order for economical development. There is no alteration underground. The rise from the 32, and the winze from the 20, opening to meet each other, are only about 5 fm. apart now, and good ore is coming from both places. The ends of the levels are much the same as usual. I have fixed the pay for the last Saturday in each month.

COLLACOMBE.—S. Mitchell, Sept. 17: During the last week the pitches throughout this mine have improved. The 50 fm. level cross-cut is extended north of Morris's engine-shaft 20 fms.; the ground is still easy for progress.

CORNUBIA TIN.—Wm. H. Gray, Sept. 19: The lode has been pricked at the new shaft by the 90 fm. level cross-cut, and the sample taken therefrom gives a yield of black tin equal to one-fourth of the weight tested as taken from the lode. The water has very much increased, and an accident to the flat-rods (which are too light for the purpose) has kept us from seeing further into it up to this moment, but as it has every appearance of a large lode, and the workings immediately over, show great productiveness down as far as their means of operating went, I am fully satisfied of the best results by-and-by.

P. Pinch, Sept. 18: We have reached the lode in the cross-cut in west end. I have brought up from underground some splendid work. The stone I sampled produced one-fourth tin. We have only opened it in the bottom of the end as yet, but from its appearance I judge it is a large lode, and I do not hesitate to say it is a good one. You shall have more fully the particulars in a post or two, as it will take some time to get through it, as a large stream of water is issuing from it, which requires care, being in soft, decomposed granite. I shall more fully test the quality of the work produced this afternoon, being now too late for post to have time to do so.—P.S. Since I wrote the above, the men have brought from the end a stone equally as good as what I have sampled.

CROOKHAWEN.—H. Thomas, Sept. 16: The ventilating shaft is holed from the 20 to the 40; this has caused a good current of air to the engine-shaft, and more men are now employed in sinking the shaft below the 50. I now hope we shall get on without let or hindrance for some time to come. The men who were sinking under the 20, on the flockan lode, are removed to the 40 cross-cut north, where they were taken from. There is no change of ground in this end to notice since last reported, on 40 fms. west on south lode; this end is looking much as usual, mixed up with branches of yellow ore. The stent is finished, and I propose setting a winze to sink under the level; this will not only prove the lode, but will act as a ventilator for much deeper working; if this is not approved of, I will stop it at once.—Western Trial Shaft: We are still going down in a fine channel of ground—white Killas and flockan.

DALE.—Robt. Nineas, Sept. 18: The water has been in the bottom since Sunday, caused by the torrents of rain we had during the three successive days of Friday, Saturday, and Sunday, consequently we have not been able to break a single ounce of ore for the week, and I fear that it will take us the week through to get it out, which is aggravating, as it will destroy a good sampling, and besides within the last few days the old and new carriage of ore seemed to be coming together, which I am so anxious about, for should these carriage come together we cannot fail to have a very rich bunch of ore. The water shall be out as soon as possible. During the past week we have sunk 4 feet in the new shaft, which is now down from surface 29*1/2* fathoms; we would have sunk more, but we have been putting in some timber.

DEVON AND CORNWALL UNITED.—T. Neill, Sept. 17: We have commenced cutting plat, &c., preparatory to sinking the shaft below the deepest level. At William and Mary, in the 12, west of water-wheel shaft, as well as the 10, east of engine-shaft, the lode is looking very promising, and producing good stones of ore. With the line of rods and necessary work attached, everything is being pushed on as fast as possible.

DEVON NEW COPPER.—P. Hawke, Sept. 14: In crossing the great north lode in the 78 we have met with a breast head, which is most beautifully defined, the product from this point consisting of solid blocks of mundic; a feature of no small interest.

—Sept. 18: The character of the strata in the engine-shaft below the 78 becomes as we progress in depth more than ever indicative to good results. The country is interspersed throughout with small veins of mundic and yellow copper ore, which pass obliquely into the lode. I hope by Saturday next to have rather more than 7 fathoms completed below this point. A portion of the breast-head that has been met with in crossing the great north lode in the 78 has been broken through, and the product is principally a mass of mundic. I do not consider this to be the leader passed through in the 68, but believe it to be yet ahead. The water issues plentifully and with great force from the extreme point of the cutting. The steam-engine, pitwork, &c., work well.

DRAKE WALLS.—T. Gregory, Sept. 18: In taking down the branches in the 102, east of Matthews's shaft, to-day, we find they are improved, and will produce tin to the value of 10*t.* per fm., with a promising appearance. The branches in the 92 east are producing saving work. The branches in the 80, west of Betley's shaft, are producing good stones of tin. The branches in the 70, west of Brenton's, are producing stones of tin and copper ore. The branches in the 50 and the 60, west of Brenton's, are moderately productive, and opening profitable ground for stopping. We have no change to advise in the underground department since last report.

DULTA.—J. Martyn, Sept. 17: Dyer's lode is 9 ft. wide, producing capital work for tin, and is improving in size and quality the further we go east towards the killas. Shrimmin's lode is still 4 ft. wide, producing good work for tin. The spar lode has somewhat improved. Butt's lode is looking much better; I expect a good change here as soon as we get out of the disordered ground, and just under where we have seen the lode 10 ft. wide, in one of the trial shafts. We are doing our best with our present stamping power, and the tin is turning out very well, considering our limited means. We are in want of a boiler and 20 more stamps' heads, when we should be enabled to pay all costs, and make good profits.

DYFNGWM.—E. Davies, Sept. 16: I have considerable improvement to report since last week. The 50 has been driven further east, and opened on a fine patch of ore, which improves every day. The 32 has been drawn through the long patch of barren ground, and just opened on the rear part of the lode, as anticipated; the driving of this level will now be of weekly interest, as it will be going through the rich bunch of ore. The only level at present without ore in the forebreast is the 40; the stopes in it yield from 1 to 5*t.* tons per fm. As soon as the winze is holed it will be driven, and will not be long in reaching the ore. The 52, 50, 60, and 70 ends, are all looking well, and the stopes in the backs the same.

EAGLEBROOK.—H. Tyack, Sept. 18: The ore in the winze sinking from the 10 to the 20 is dipping west very fast; we are now down under the 10 fm. level 3 fms. The 20 and 30, west of the engine-shaft, are both without any alteration since my last. The dressing and surface operations are proceeding as usual.

EAST ALFRED CONSOLS.—H. Skewes, Sept. 18: South Lode: In the 70 west the lode is increasing in size, being now 1 ft. wide, with a kindly appearance, and water freely issuing from it. In the eastern end the lode is 1*1/2* ft. wide, composed of spar, mundic, blends, and producing occasional stones of copper ore. In the 50 west the lode is 1*1/2* ft. wide, worth 10*t.* per fm.; we have two pitches working in back of this level one at 6*t.* in 17, and one at 6*t.* in 17. In the 38 west the lode is 2 ft. wide, worth from 2*t.* to 3*t.* per fm.; driving at 4*t.* in 17, tribute; we have two pitches in back of this level, one at 4*t.* in 17, and one at 6*t.* in 17. No change to notice in any other part since last report.

EAST BEAM.—J. Webb, Junr., Sept. 19: The engine-shaft is about 13*1/2* fms. in diameter, letting out more water, and is not so favourable for sinking as when last reported on, but we have every reason to expect a change for the better shortly. The engine works well, the rods, bobs, and pitwork being laid out in a sound and substantial manner. We have a strong party of men in the shaft, and shall soon reach a 20 fm. level, where we shall lay open the lode east and west. We are pushing this on with all speed, in order to get tin in the market as early as possible.

EAST CARN BREA.—T. G. Anville, Sept. 18: In the 40 west the lode is yielding 6 tons of ore per fm. In the 40 east the lode is yielding 1 ton of ore per fm. In the 30 east the lode is yielding 2 tons of ore per fm. In the winze sinking below the 26, west of the cross-cut, the lode is yielding 2 tons of ore per fathoms. In the winze sinking below the 26, east of the cross-cut, the lode is yielding 2 tons of ore per fm.

EAST DEVON GREAT CONSOLS.—T. Richards, Sept. 17: We are getting on with cutting plat, &c., at the 52 as fast as possible, in ground very favourable for progress. The lode in the 40 west, as also the ground in the cross-cut south, present no change to notice since the report for the meeting.

EAST GUNNIS LAKE AND SOUTH BEDFORD.—J. Phillips, Sept. 19: The lode in the 36 east is 10 ft. wide, 8 ft. of which is worth 5 tons of ore per fm.; the stopes in back of this level are worth 5 tons of ore per fm. No alteration in No. 2 winze. The lode in No. 3 winze is 6 ft. wide, worth 2*t.* tons of ore per fm.; the ground in the rise continues favourable for progress. We have suspended the driving of the 24 east, and the men are put to sink to hole to the rise for ventilation, &c., which we hope to complete in the course of a week or ten days. The lode in the deep adit is improved, being now 8 ft. wide, with a rich lode of ore 3 in. wide, and every appearance of further improvement. No alteration in any other part of the mine.

EAST RHOSSESMOR.—J. Williams, Sept. 19: This mine is situated on the east, on the same lode as the celebrated Rhossesmor Mine, adjoining sett. The former is an extensive sett, and in one of the best situations to become one of the first mines in the neighbourhood of the Halkin Mountain. There is a Bryn-Gwrig Mine within $1\frac{1}{2}$ miles on the north-west on the parallel lodes on the East Rhossesmor Mine. Your engine-shaft is sunk on the north side of the lode, and as far as I can understand will intersect the lode at a depth of 90 yards, when it is to be expected a good lode will be found. I also found that your engine-shaft has already been sunk down to the 80 yard level, therefore you will have about 10 yards more to sink before you intersect the lode, and by all appearances the ground under the shale head is more of a settled state than above, and congenial bearing. The engine and pitwork in the shaft are in first-rate working order, and the water is easy, and appears to have been worked with economy and much judgement; if the same course is continued hereafter it will, no doubt, become a dividend mine at an early period. I have every reason to believe that this property is one of importance, and are of strong opinion will handsomely reward the shareholders for their outlay.

EAST ROSEWARNE.—J. James, Sept. 14: There has been no lode taken down in the 55, east or west, during the week; in both levels it seems to maintain its size and value. In the rise over the 55 the lode is 1 ft. wide, worth 12*t.* per fm. In the winze sinking below the 43 the lode is 15 in. wide, worth 2*t.* per fm. There is no change to notice in any other of our operations since last reported.

EAST WHEAL FALMOUTH.—Wm. Hancock, Sept. 18: The adit cross-cut extends south of the engine-shaft towards the south lode 4 fms. 4 ft.; the ground is very congenial for the production of mineral. The lode in the adit end, east of said shaft, is 14 in. wide, composed of capel, spar, and tin; saving work, and looking kindly for further improvement.

EAST WHEAL GREENVILLE.—G. R. Odgers, W. Bennetts, Sept. 14: The lode at the engine-shaft maintains its size, and of much the same value as before stated—about 2*t.* per fm. for copper and tin, and in the eastern end of the shaft there is a very kindly lode. The lode in the rise above the 35 west will yield about 1*t.* ton of ore to the fathom—a promising lode. The lode in the 25 east is 2 ft. wide, principally quartz, gossan, and pebbles, with a little tin and mundic; altogether this is a very promising lode. We are getting on very well with the stamping.

EAST WHEAL RUSSELL.—J. Richards, Sept. 18: Homersham's shaft is in regular course of sinking below the 110, to the south of the lode in favourable ground for progress.—Homersham's shaft: In the 110 east the lode is worth 1*t.* ton of ore per fm. In John's winze, sinking below the 100, on north part of the lode it is 3 ft. wide, and consists of capel, mundic, quartz, and good stones of ore. In the 100 east, on the south part of the lode, the lode is 2 ft. wide, composed of carbonate of iron, quartz, mundic, and stones of ore. In the stopes in back of the 100, east of Oats's No. 1 winze, the lode is worth 12*t.* per fathom. The lode in the stopes in back of the 100, west of Oats's No. 2 winze, is worth 3 tons of ore per fm. In the 85 east, on the south part of the lode, the driving is by the side of the lode; the ground is favourable for driving. In the 68 east the lode is being driven through; it is cut into 2 ft., and consists principally of capel, with a little mundic and ore. In the 88 west of Hitchin's engine-shaft, the lode is 3*1/2* ft. wide, containing quartz, gossan, mundic, and a little ore.

EAST WHEAL TOLGUS.—Sept. 18: Redruth Consols Lode: We yesterday commenced sinking John's shaft below the 70. The lode in the 70 west has not been taken down since last reported; it was then 15 inches big, containing good stones. We have not yet commenced to drive the 70 east, nor shall we be able to do so for a few days. The lode in the 57 east is small and unproductive. The lode in the 34 east is

1 foot wide, composed of peach and spar. The lode in the winze sinking in bottom of the 22 east, is 20 inches wide, producing a little saving work for us. The stopes in back of the 22 east, is worth for tin and copper ore 6*t.* per fathom. No lode or branch has been met with in driving the 40 cross-cut north since last report. The ground in the new shaft is rather harder, and we have more water than we had in the shaft.

GARREG.—W. Sandoe, Sept. 18: In the 20, west of new shaft, the lode is 2 ft. wide, of a very kindly appearance, and is producing dressing work for lead. We are now busily engaged erecting the whin on this shaft, and hope to complete the same and get the kibbles down by the end of this week. In the 20, going west on the old lode, there is no change since last report.

GOGINAN.—Sept. 17: The lode in the 100, east of Gilbertson's, is 4 feet wide, containing a little ore, but not sufficient to value; this is a kindly lode, and likely to improve shortly. In Bryn Pica shaft, sinking below the 60, the lode is principally composed of soft clay-slate and spots of lead ore, but not to value. The tribute pitches throughout the mine are without any alteration to notice since last report.

GREAT CRINNIS.—F. Puckey, E. Dunstan, Sept. 18: The new engine-shaft will be completed in sinking to the 120 by the end of this week, when we shall at once commence driving west on the course of the lode. This shaft, as you are aware, has been sunk for the last 10 fms. on the back of the lode, which, for expedition, we consider was a judicious arrangement. From the fact that the sinking of this shaft has drained of the 100, it clearly shows that the lode has continued its masterly size. The 100 has been driven west of this shaft about 35 fms.; during the last 10 fms. driving the lode has been from 7 to 9 ft. wide, being of an exceedingly promising appearance, and producing some good ore. We shall at once commence the sinking of a winze below this level, and from all the indications which we have seen we consider that there is every probability of its improving as we go deeper. We have suspended the driving of the 90 cross-cut, north of the said shaft, and the men will be employed sinking the last-named winze. In the 100 cross-cut south, east of the shaft, the ground is favourable for driving, in conclusion, we would strongly recommend that all the bottom levels be prosecuted with vigour.

GREAT RETTALLACK.—Wm. H. Reynolds, Sept. 18: In the 45 east the part of the lode in the end contains mundic, blends, and some lead, and is of a promising character. The stopes in the 30 are yielding fair quantities of blends.

GREAT SOUTH TOLGUS.—J. Daw, Sept. 18: Friday last was setting-day. The lode in Lyle's shaft, sinking below the 125, is 1 ft. wide, unproductive; set to nine men, at 2*t.* per fm. The lode in the 125, west of Lyle's shaft, is 2 ft. wide, producing some good stones of copper ore; set to four men, at 3*t.* per fm. In the 112 west the lode is 2*1/2* ft. wide, producing a little ore, a very promising lode; set to four men, at 3*t.* per fm. In the 100 west the lode is 1*1/2* ft. wide, producing 1*t.* ton of ore per fm.; set to four men, at 3*t.* per fm. The lode in the 90 west is 1 ft. wide, unproductive; set to two men and two boys, at 3*t.* per fm. The lode in the 40 west is 2 ft. wide, producing 1 ton of ore per fm.; set to two men and two boys, at 3*t.* per fm.

GREAT TYWARNHALL.—Capt. Hampton, Sept. 18: We are putting in skip-road as fast as we can in the various shafts that we may clear and draw from the 80, and even below that, as during the dry weather we may be able to make good speed in forking, and we expect the 90 will soon be drained. As far as we can see the 80 it looks satisfactory, and will doubtless turn out large quantities of ore. We have between 30 and 40 pitches now working, and the men generally are earning fair wages at their respective tributes. As soon as the 80 is clear, and we have in a tram-road from east to west in that level to facilitate our putting the stuff to shaft, the returns will be considerably increased. Our various tuftwork operations, by driving the levels, cross-cuts, &c., can be arranged directly the men have finished cutting down John's shaft, which is in a forward state. The new engine-house is being built satisfactorily, and the walls will soon be up to take the roof. The engine is being delivered; good portions of it are already on the mine, and no time will be lost in getting this machine at work to be prepared for winter.

GREAT WEST SETON.—Henry Cowling, Sept. 19: I have not much alteration to report since my last. The lode in the sink is full 6 ft. wide, of quite a metalliciferous character, showing more copper as we get down on it; in fact, no lode can show a better appearance. I am surprised there is no more doing on such a fine lode, situated as it is in one of the best copper districts in all Cornwall, and close upon that celebrated mine the West Wheal Seton, which so abundantly paid the shareholders for their outlay; 126,000*t.* has been returned in dividends, and the selling price for the mine is 136,000*t.*, making a total of 262,000*t.* And some of the same lodes are passing through the Great West Seton.

WHEAL SETON.—N. Levett, Sept. 18: The lode in the sink is full 6 ft. wide, of quite a metalliciferous character, showing more copper as we get down on it; in fact, no lode can show a better appearance. I am surprised there is no more doing on such a fine lode, situated as it is in one of the best copper districts in all Cornwall, and close upon that celebrated mine the West Wheal Seton, which so abundantly paid the shareholders for their outlay; 126,000*t.* has been returned in dividends, and the selling price for the mine is 136,000*t.*, making a total of 262,000*t.* And some of the same lodes are passing through the Great West Seton.

WHEAL TOLGUS.—Capt. Sandoe, Sept. 18: The lode in the end going east and west from the bottom of the 80 west is composed of ore, peach, and mundic, worth of the former 3 tons, or 12*t.* per fathom. In the 20 east we are pleased to say a change for the better has just taken place in the lode, which is large, composed of mundic, peach, quartz, and some very good stones of ore, carrying a quantity of green carbonates of copper. In the 10 east the lode presents much the same appearance as for some time past, composed of mundic, peach, and ore, worth of the latter about 5*t.* per fathom. The pitches and all other parts of the mine continue to present much the same appearance and character as when we last reported.

LLANERCH-Y-BAIDD.—B. J. Edwards, Sept. 17: In the cross-cut from the Llanerch-y-Baidd shaft we have just cut the vein, at a distance of 4*1/2* fathoms from the shaft; the lode is large, and composed of shale, carbonate of lime, clay, &c.; it contains no ore at the present shallow depth, but the ground is of a very kindly and promising character. We have commenced sinking a sump on the lode, and the ground being soft and easily worked, we expect to make rapid progress in proving the lode in this part of the mine. The Graig Fadog engine-shaft is now down about 40 yards from surface, and is in a strong north and south cross-course, on which a level has been driven (about 2*1/2* fms.), communicating with the old workings, which extend in an east and west direction on the course of the vein for a distance of about 30 yards; the ground is hard, and contains strings of solid lead ore, averaging in places 2 to 3 inches in width. We have not yet been able to reach the bottom of the old workings, on account of the dead water, we shall, therefore, continue sinking the engine-shaft, where I am of opinion that the most important trial in depth yet remains to be made.

LONG RAKE.—F. Evans, Sept. 18: Since this day fortnight the 48 has been communicated with the trench below the 44, and we are now stopping the bottom of this trench eastward. We are also stopping the back of this level in the western end of this trench. This stoppage, together with the eastern one, will produce 15 cwt.s. per fm. for price of stonings, 2*t.* per fm. I may mention there is a run of productive ground down below this level for a considerable length, and will be a productive part of the mine as the level below becomes opened out. There is no particular change in the 48 west; the lode is large, and carries a little lead, but of no value. We are making fair progress in sinking our engine-shaft; it is down over 3 fms

bottom of the 100 east the men have been hindered by the water from working much in the bottom slope, which is, therefore, as last reported, worth 60/- per fm.; they have consequently been employed bringing down the top slope from near the level, which is worth about from 20/- to 30/- per fm. The 100 east is poor. The 90 west is poor. The 90 east is worth 35/- per fm. The 90 west, on Skinner's lode, is worth 5/- per fathom.—Street and Bragg's. In the 47 east the lode is 4 ft. wide, and promising for the production of tin. The 49 east is worth 8/- per fm.

PENDEEN CONSOLS.—W. Eddy, J. Warren, Sept. 14: In the sump-shaft the lode has a very promising appearance, and is producing some good grey ore. In the 130 north the lode is looking a little better. In the 118 north the lode is still poor, but not yet reached the run of ore gone down from the 106. We have no other alteration, with exception of a still further falling off in our stopes. Our ends have not yet reached the runs of ore, which are dipping fast north.

PENGENA.—Capt. Hitchins, Sept. 18: Adolphus Shaft: We have taken down the north side of the shaft within 9 feet of the bottom at the water level, and cleared up the same. We shall soon cut the plat, and I hope commence again to drive on the course of the lode in a few days. I purpose putting six men on in the end, and as the lode is a little more favourable for driving hope to make good speed. We have commenced fixing the whim, and hope in a week to begin hauling the stuff. I am progressing with the dressing as fast as I can. All other operations for the present are suspended, and our attention for the future will be given to pushing forward on the course of the Treburtog lode, where I am satisfied we shall meet with a good course of ore, as the start from the end is precisely the same as that surrounding the deposit in the Old Treburtog mine, which produced such large quantities of lead and silver.

PENHALDARVA.—J. Pope, Sept. 19: In the 60, north of engine-shaft, the leader part of the lode is 1 foot wide, spotted with lead, but nothing to value. In the 60, south of engine-shaft, the lode or leader part is 15 inches wide, producing occasional stones of lead. In the 50, north of engine-shaft, the leader part of the lode is 18 in. wide, composed of spar, prian, mundic, and spotted with lead, but not enough to value. We have done nothing on the new caunter lode since last reported.

PENTRE LYGAN.—F. Evans, Sept. 18: The measures are altering their colour as we sink, and we are progressing as fast as the nature of the ground will permit. I will send you a section in a day or two, which will show the underlie of the lodes, and the probable depth at which the junction of Billin's and Parry's veins will take place. Our shaft is being sunk between the two veins—the Billin's, which lie to the south with a north underlie, and Parry's to the north with a south underlie.

PROSPER UNITED.—W. H. Martin, Sept. 19: The 20-in. plunger-lift, at Hockings's engine-shaft, is completed, and answers remarkably well; we have sent the drop-lift in this shaft to the 30, which we hope to drain without any further stop. The sumpmen at Louisa's engine-shaft are still engaged cutting ground and preparing to fix the plunger-lift in the 30, which will be proceeded with as fast as possible. The lode in the 30, east of Louisa's shaft, is 3 ft. wide, consisting of quartz, chlorite, copper, and mundic, with tin disseminated throughout the lode, having a very promising appearance. The lode in the 50 west is composed chiefly of quartz and mundic, producing a little tin; the ground is easy for exploring both ends, and is at 50 fm. There has been but little change during the week in the character of Murchison's lode in sinking the new shaft. We have erected a horse-whim at Henry's shaft, and commenced clearing the 20 of stuff; there are several parties anxious to take on tribute in back of this level. The excavations for the steam-stamps house and loadings are got out, and we hope to get the steam-capstan to work, at Louisa's shaft, next week, which will greatly aid us in fixing our pitwork.

REEDMOOR.—J. Taylor, Sept. 17: We have not yet reached the cross-course in the 40 west; the ground and lodes are giving out more water. We intend taking down the lode in the 70 and 80 ends by survey day. No alteration in the tribute ground.

RIBDEN.—E. Nines, Sept. 19: Since my report of the 12th we have cased and divided Gilbert's shaft from the 62 to the 70, and are now working the kibble to this level. We have also cut a plat for the convenience of holding the stuff, and have commenced driving the 70 west on the course of the lode, from which we have already broken some nice bits of copper; and, from the present appearance, I am of opinion we are near a very rich lode.

ROSEWALL HILL AND RANSOM UNITED.—E. Thomas, Sept. 18: The lode in the Ransom engine-shaft, sinking below the 110, is without change to notice; the lode in the end, east of shaft, is much the same as when last reported. The lode in the end, west of the Troan, at this level, still continues to improve, now worth from 35/- to 40/- per fm.; the lode in the stopes in back of the same level is much the same as when last reported, worth from 20/- to 25/- per fm. The lode in the 80 east is disordered by a cross branch; the lode in the stopes in back of this level is worth 8/- per fm. The lode in the winze sinking below the 70 is worth 12/- per fathom.

ROSEWARNE CONSOLS.—J. Berriman, Sept. 17: The 20 east, on the caunter, is set to drive by three men and three boys, at 15s. per fm., and 3s. in 12, for the ore; this level is yielding good saving ore. The 40 west of engine-shaft, is set to two men and one boy, at 40s. per fm. The lode is 2 ft. wide, consisting of stones of ore and peach. The 40 east of engine-shaft, is set to six men, at 42s. per fm. The lode is poor.—Ellen's Shaft: We have put two men in to day to secure from the present bottom to the 30. We have set four pitches to eight men, at tribute varying from 9s. to 11s. in 12.

ROSEWARNE UNITED.—H. Woolcock, Sept. 19: In the 90, west of footway-shaft, the lode is 2 ft. wide, unproductive. In the 90, east of Jennings's, the men are rising; the lode is 18 in. wide, worth 5/- per fm. In the 80 these men are cross-cutting south, east of footway-shaft, and we expect to cut the south part in the course of three or four days from this time. In the 80, east of Jennings's, the lode is 2½ ft. wide, producing good stones of ore; the rise above this level is communicated to the level above. In the 74, at Richard's, the men are still driving south to cut the lode. In the 58, west of Richard's, the lode is 18 inches wide, with a promising appearance. In the 46, east of Lane's, the lode is 18 to 20 in. wide, producing good stones of ore, and from the appearance of the lode in this end we expect an improvement shortly. In the 34, east of Lane's shaft, the lode is 2 ft. wide, opening tribute ground. Wellington shaft is communicated to the 34, and we shall get it in order for drawing in a few days. The pitch east of Jennings's shaft, above the 80, we set on Friday last to six men, at 1s. in 12. The tribute department through the mine is looking very well. We shall sample on Tuesday next about 200 tons of good quality ore.

ROUND HILL.—R. Waters, Sept. 18: The lode in the 62, driving north of No. 1 winze, north of engine-shaft, is very much improved, worth 1 ton of ore per fathom. The lode in the back of this level, north and south of said winze, will yield 30 cwt. of lead ore per fm. The stopes in the back of the same level, south of No. 1 winze, will yield 1 ton of ore per fm. The lode in the winze sinking below the 62, south of engine-shaft, will yield 12 cwt. of ore per fm. In the cross-cut driving east at the 52, north of engine-shaft, we have intersected several small strings of carbonate of lime, containing lead ore, and from present appearances I should say the lode cannot be far off. We are also driving a cross-cut at the 62, south of engine-shaft, and have just cut a branch 6 in. wide, containing good stones of ore, on which we shall at once begin to drive north.

SORTRIDGE CONSOLS.—J. Richards, Sept. 19: Hitchins's Shaft: In the 62 west a cross-course has been intersected and cut through, to the west of which the lode is not yet met with. In the 60, west of Crew's cross-cut, on the south part of the main lode, the lode is 8 in. wide, and unproductive. In Mayne's stop, in back of the 50, on the south part of the lode, the lode is worth 1 ton of ore per fathom. In the 40 east, and east of Head's rise, on the south part of the lode, the lode is 2½ ft. wide, worth 30/- per fathom. In Gribbin's rise, in back of the 40 east, and east of Head's rise, on the south part of the lode, the lode is a good course of ore, worth for the length of rise, 9 ft., 4 tons per fm. In the 30 east, on the south part of the lode, the lode is for the present unproductive; it is, however, promising. The lode at Blanchard's stop, in back of the 50, is worth 1 ton; and in Rowes's stop, in back of the 40, 2 tons of ore per fm.

SOUTH CARADON WHEAL HOOPER.—Wm. C. Cook, Sept. 14: The lode in the engine-shaft is just as reported last week, about 15 to 18 in. wide. The ground in the 62 is again improved, present price 6/- per fm., last price 12/- per fm.; this end looks very promising indeed. The 47 north, and the winze on No. 7 lode, are without any alteration.

SOUTH CARN BREA.—T. Glanville, Sept. 14: Tottow Setting: The new shaft to sink under the 68, by nine men, at 20/- per fm. The 40, to drive east of the flat-rod shaft, by two men, at 6/- per fm. The 30, to drive west of the flat-rod shaft, by four men, at 3/- 10s. per fathom. The 88, to drive east of the flat-rod shaft, by four men, at 5/- 10s. per fathom. The winze to sink below the 20, by four men, at 3/- per fathom. The winze to sink below the 78, by four men, at 7/- per fm. We have 47 men working in 17 pitches, at tributes varying from 6s. 8d. to 10s. in 12. Tin sold to the Trethellan Smelting-house, Truro, 2 tons 14 cwt., 1 qr. 8 lbs., at 66/- 15s. per ton—648/- 8s. 11d. We put twelve of our new stamps' heads to work on Saturday last.

SOUTH CRENVER.—E. Chegwin, Sept. 17: In the 105, east of flat-rod shaft, the lode is 2 ft. wide, producing 1 ton of ore per fm.; the lode in this end is much improved in the past week. In the flat-rod shaft, sinking below the 105, the lode is 1½ ft. wide, producing good stones of ore.—South Mine: In the 51, east of cross-cut, on new south lode, the lode is 2½ ft. wide, producing stones of tin. In the 51, west of cross-cut, on new south lode, the lode is 3 ft. wide, producing stones of ore and a little tin; improved in the last 6 ft. driving.

SOUTH DARREN.—J. Boundy, Sept. 17: The engine-shaft is sunk 11 fms., 3 feet below the 70; the lode in the present bottom is 3 ft. wide, composed of clay-stale, carbonate of lime, copper, and lead ore, yielding about 10 cwt. of lead and 5 cwt. of copper per fm.; the indications of the lode at this point are very encouraging for another sink, which I would purpose doing as soon as convenient. The shaftmen are at present engaged in fixing standing-lift at the 80, putting in footway, &c., which will be accomplished as soon as possible; after which we shall immediately commence driving on the course of the lode, both east and west of the shaft, by six men in each end. The lode in the 70 east is much of the same character and value as last reported; the present value is ½ ton per fm. There is no alteration in the stopes worthy of remark since my last report. In the 40 east we are still engaged in cutting down the north side of the level, in search of another portion of the lode which may be standing in that direction. No lode has been taken down in the 20 west since last reported. There is no change in any other part of the mine worthy of notice. All the machinery is in good order, and working well.

SOUTH DOLCOATH AND CARNARTHEN CONSOLS.—Wm. Roberts, Sept. 18: In the 50 fm. level cross-cut north the ground continues hard, but it is letting out water more than usual, indicating as we suppose to be getting near the lode. The lode in the end is small, and at present unproductive. The stopes in the back of the adit produce rich grey ore—about ½ ton per fm.

SOUTH TOLGUS.—T. Pierce, Sept. 19: Youren's Lode: The lode in Michell's engine-shaft is 18 inches big, composed of spar, peach, and mundic. In the 130 west the lode is 15 in. big, chiefly of killas. The lode in 120 west is 16 inches wide, worth 1 ton of ore per fm. The two stopes in back of the above-mentioned level each yield 3 tons of good ore per fathom. In the 110, west of shaft, we are driving north, and have about 4 feet more to drive to intersect the main part of the lode. The lode in the 100 west is 15 in. wide, worth 1 ton of ore per fathom. The lode in the rise in back of the 100 west is small and poor. In the 90 west the lode yields 1 ton of ore per fathom. The lode in the 130 east is 18 inches wide, composed of spar, mundic, and stones of ore. In the 110 east the lode is 2 feet wide, composed of spar and killas. The lode in the winze sinking in bottom of the 110 east yields 3 tons of ore per fm. The lode in the 100 east yields 1 ton of ore per fathom.—New South Lode: In the 78 west, west of cross-cut, the lode 16 in. wide, composed of spar and killas.—North Lode: In the 90, west of Michell's shaft, and west of the cross-cut, the lode is 20 inches wide, composed of peach, spar, and mundic—kindly-looking lode.

SOUTH WHEAL BETSY.—Wm. Stephens, Sept. 17: The cross-cut north of Ley's shaft has been driven 4 fm. 1 ft. 1 in.; we have put the men to drive west on the course of the lode; set to six men, at 12/- per fm., stented 2 fms. The bottom cross-cut south has been driven 1 fm. 4 ft., and the 16 fm. level cross-cut has also been driven 1 fm. 4 ft. in caps; set to six men, at 10/- per fm., stented 1 fm.

SOUTH WHEAL MARGARET.—W. Richards, Sept. 18: In sinking the new shaft on the gossan lode the ground continues favourable for progress; the lode is about 3 ft. wide, of a well-defined nature, producing a little tin, with every appearance of a further improvement when a deeper point is reached. The men are now engaged in timbering up the collar of the shaft; and when this is accomplished we shall erect a whim, which will enable us to make more dispatch in sinking. I shall continue to push this point

as fast as possible. We have not yet commenced sinking on the great south lode, nor would I advise doing so until we first clear out an old adit in the west side of the sett, and ascertain how far we shall have to drive to intersect the great south lode. We are yet containing the south part of the sett.

ST. DAY UNITED.—F. Fryor, E. Ralph, C. Oates, Sept. 14: In the 162 end, west of Trussall's, the lode is 2 ft. wide, producing 1 ton of ore per fm. In the 144 end east the lode is 2 ft. wide, producing stones of ore. The stopes in the bottom of the 144, east of shaft, will produce 3 tons of ore per fm.—Billing's: In the 154 end, east of shaft, the lode is 6 ft. wide, and worth 60/- per fm.; driving by eight men, at 4/- per fm. In the 164 end, west of shaft, the lode is 4 ft. wide, and worth 50/- per fm.; driving by six men, at 3/- 10s. per fm. In the 154 end, east of shaft, the lode is 2 ft. wide, producing saving work for tin. In the 154 end, west of shaft, the lode is small and unproductive. In the winze, sinking below the 154, west of shaft, the lode is 2 ft. wide, producing stamping work. The stopes in the back of the 154, east of shaft, is worth 35/- per fm. The stopes in the bottom of the 154, east of shaft, are worth 35/- per fm. The stopes in the bottom of the 144, east of shaft, is worth 12/- per fm. In the winze, sinking below the 144, west of shaft, the lode is 2 ft. wide, producing saving work for tin. In the winze, sinking below the 144, east of shaft, the lode is 3 ft. wide, and worth 8/- per fm. In the 134 end, east of Quicke, the lode is 2 ft. wide, and producing a little tin, with a promising appearance. In the 124 end, east of Trussall's south shaft, the lode is large, and producing saving work. In the 114 end, west of shaft, the lode is 1 ft. wide, and worth 8/- per fm. At Bissoo Pool engine-shaft, sinking below the 153, the lode is small and unproductive. In the 153 end, west of shaft, the lode is 18 inches wide, worth 6/- per fm., and kindly to improve.—Wheat Unity: In the 114 end, west of Davis's, this lode is 4 ft. wide, and producing some good ore, and a very kindly lode. In the winze, sinking below the 114, east of shaft, the lode is 4 feet wide, and producing good stones of lead. In the 114 end, east of shaft, the lode is 2 ft. wide, and producing a little tin, with a promising appearance. In the 124 end, east of Trussall's south shaft, the lode is large, and producing saving work. In the 114 end, west of shaft, the lode is 1 ft. wide, and worth 8/- per fm. At Bissoo Pool engine-shaft, sinking below the 153, the lode is 18 inches wide, worth 6/- per fm., and kindly to improve.—Wheat Unity: In the 114 end, west of Davis's, this lode is 4 ft. wide, and producing some good ore, and a very kindly lode. In the winze, sinking below the 114, east of shaft, the lode is 4 feet wide, and producing good stones of lead. In the 114 end, east of shaft, the lode is 2 ft. wide, and producing a little tin, with a promising appearance. In the 124 end, east of Trussall's south shaft, the lode is large, and producing saving work. In the 114 end, west of shaft, the lode is 1 ft. wide, and worth 8/- per fm. 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YARNER.—R. Barkell, Sept. 18: South Lode: Thomas's slope, east of shaft, is worth 4 tons per fathom, and likely to continue for some time. The lode in the 30 west is 2 feet wide, and will produce 3 tons per fathom. We have a strong stream of water coming from this end, which we think a favourable indication. The 20 west is tight for driving; the lode is producing stones of ore. No lode taken down in the winze sinking below this level; we are letting it stand before we fit the tackle, in order to take up the water. The ground in the 30 east, on north lode, is easier for driving; it is 3 feet wide, still unproductive.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

ABERYSTWITH, SEPT. 18.—The falling off in the price of lead has had a depressing influence on the mines of this country, and a great many men have been discharged, as a measure of economy, to counteract the depression of price. The lodes of Grog-winston and the Llasmere mines, Cwmystwyth and South Llasmere, continue to present good masses of ore, workable at a profit, at almost any price seen for lead for the last quarter of a century, but, of course, the profits would be smaller. The lodes of the silver district of Llanidloes, Darren and Cwm Eryth are very productive, and many of the younger mines afford much encouragement to the miners of the coming age. Bryn Hors, North Haaf, and Silver Bank are young mines of much promise. We have nothing new in other matters; this interesting place is, however, certainly beneficially affected by the opening of the railway so near Llanidloes, 28 miles from here. I wish we could get it through to Milford.

NORTH POOL.—A company is in course of formation for re-working this mine, which has much to recommend it, and is universally praised by the miners of the locality. It contains several lodes and cross-courses in a very long seat, and situated in the very midst of the best mines of Cornwall, between the Tolgusseas and Setons, on the course of their lodes. The greatest profits of the district (for the ground opened) were made at and above the 70, being 61,550L in eight years; but only one-hundredth of the ground, to the profitable depth of the district, has been worked, and, therefore, sufficient has been left standing for 100 years' exploration, if as productive as its neighbours. It is gratifying to see such a plausible property offered to the public, and being, as I understand, under limited liability, will, therefore, be an unusually safe and legitimate investment for the capitalist.—A FRIEND TO MINING.

GREAT ALFRED.—We are requested to say that those desirous of working the mine are anxious that every shareholder should express a wish either to continue or discontinue his or her interest in it.

WHEAL GRYLLS.—The proceedings at the general meeting on Wednesday (reported in another column) were peculiarly interesting. The mine is turning out extraordinarily well, and an ample quantity of tin is now being returned for a good profit. Within the past month the shares have risen to three times their former value, and the upward movement has not yet ceased. Last month's sale of tin realised 1000L, against which there was only 500L cost, leaving 500L profit.

CAMBORNE VEAN.—An improvement has taken place in the 140, which is now producing fine stones of rich ore.

CUDDRA.—The lode in the 60 for nearly 70 fathoms in length has produced good working for tin. The stamps and apparatus are now sufficiently completed as to enable all the processes from the stone to the clean tin to be carried out. An additional number of men have been engaged, and increased stamping power will be applied in proportion to the increased quantity of tin-stuff raised. The first sale of tin will take place in a fortnight, from which time regular monthly sales will be made.

OLD TOLGUS.—The lode in the 132 has improved, being now worth 1/4 ton of good yellow ore per fathom, the rest of the lode being composed of blende, mica, and quartz. The 42 is also improving, giving rich stones of ore. The killas has improved in colour, being now of the same description and colour as that in which the large deposits of ore had been found in the adjoining mines. It is expected by the agents that, by opening out on the course of the lodes west, a good mine will result.

SOUTH FRANCES.—An improvement has taken place in the 90, but the other parts of the mine are said to be poorer.

GREAT CRINNIS.—During the past week this mine has been inspected by Capts. Puckey and Dunstan, of Par Consols and West Fowey. They express them selves highly pleased with the general appearances of the lode in the 100 west, which is being carried for 9 ft. wide, and composed of quartz, chlorite, prian, and rich yellow copper ore, giving every indication of being near a large deposit of ore. This lode is 35 fms. west of the shaft, and a winze has been commenced towards the 120. The engine-shaft is down to the 120, and has been sunk for the last 10 fms. in the killas on the north wall of the lode; but, notwithstanding the 100 end being 35 fms. west of the shaft, which is not sunk on the course of the lode, the 100 end is drained by the shaft. The lode will be cut into in the course of next week in the 120, which will be opened on west with all possible speed. The general prospects of the mine are spoken of as most encouraging.

NETHER HEARTH.—The shaft at this mine is steadily sinking by six men, and has now reached the whim at a depth of 10 fms.; it is expected to intersect the vein shortly. The recent floods have laid bare two powerful veins in the stream near this shaft.

MINING IN THE ASHBURTON DISTRICT.—The recent important mineral discoveries in the Ashburton district having done much to prove that there is every prospect of a revival of the character of the locality as a tin-producing area, has caused considerable attention to be directed to the sets adjoining those already worked; and amongst the more recent projects is the West Beam Mining Company, which has been constituted upon the limited liability principle, with a capital of 20,000L, in 12 shares. The lodes are described to be larger and to contain more valuable deposits of ore than those in the Ashburton United Mines adjoining, the strata being compact killas and granite. The mine was suspended when steam-power was required, but that the mine was rich may be judged by the fact that from a single shoot of ore on the Great South Beam lode tin worth 11,356L, 7s. 2d. was raised, and that at the present time the same tin would sell for nearly 20,000L, the market price having nearly doubled. The transfer of the property is to be secured to the company for 5000L, three-fifths of which the vendors have agreed to accept in paid-up shares. The capital proposed to be raised is considered amply sufficient to fully develop the mine; indeed, it is regarded as more than probable that only a portion will be required to be called up.

EAST PROVIDENCE.—The new shaft, near the Providence boundary, is being sunk with all speed, and is already opening up good tin ground; so also is the level going east from it. They have already gone over several fathoms of profitable tribute ground, from which returns are just commended to be made. This mine, it is expected, will within a few months prove a great prize, and will well repay the steady holders of shares. The rich Providence workings being only 45 fms. from their operations, and rapidly approaching them, is enough to show the prospects—strata and lodes being the same in each.

GREAT ALFRED.—It is stated that a movement is on foot for continuing the working of this mine under a new company. The shareholders will be allowed to continue their former interest. The management will be local, with, perhaps, an office of reference in London.

GREAT WHEAL FORTUNE.—Capt. Joseph Tregoning (Messrs. Bolitho's inspecting agent) thus concludes a report on this mine, after an examination made on the 23 inst. :—Your mine is admirably situated as a mining property, in which you have a lode from 3 to 5 feet wide, rich in character, and levels extended on it upwards of 350 fathoms in a beautiful stratum of clay-slate, which is traversed by large cross-courses throughout; that the principal course of tin discovered in the shallow levels has lengthened very considerably in going down, as may be seen at the 48 and 58; and should the 68, east of Painter's, and the 68, west of Hosken's, continue rich until they communicate (and I have not the least doubt they will), a most valuable piece of ground will be laid open, which, with other parts of minor importance at present, in conjunction with the prospect of a great and valuable lode gone down quite 100 fathoms long, and worth at different points fully 50L per fm., I do not hesitate in saying that with efficient machinery and appliances for bringing the tin-stuff to surface and returning the same on the most approved mining principles, before many months elapse your highest expectations will be fully accomplished.

ROSEWARNE CONSOLS.—The prospects are reported to be very good. A great quantity of ore ground is being opened on the caunter, but, as it is principally black copper ore, it cannot yet be taken away.

INDIAN GUARANTEED STOCK.—A remarkable pamphlet has just been issued through Messrs. Mann & Nephews, of Cornhill, by Mr. James Mills, entitled "Indian Railway and Flotilla Guarantees Examined and Found to be Deceptive." The argument put forward by Mr. Mills is, that from the nature of the contracts subsisting between the several companies and the Indian Government, the guarantee really gives no security. He maintains, in fact, that all the Government undertakes to do is to return to the shareholders annually 5 per cent. of the capital subscribed by them, and that other items are charged against the capital in the same way; so that in some instances the whole subscribed capital will be absorbed and the companies ruined in about five years. As it appears from Mr. Mills's own admission that he has only given the Blue Book, upon which he relies as an authority for his astounding and discouraging statements, a few days' consideration, we may hope that his views may prove to be erroneous.

COAL, IRON, AND ALKALI TRADES.—In an able article read to the British Association by Mr. Richard Valpy, of the Board of Trade, on "Our Commercial Relations with France," he quoted the opinions he had received from various Chambers of Commerce, including Newcastle-on-Tyne, whose secretary had informed him "that the coal and iron branches of trade will undoubtedly derive considerable advantage from the new treaty, and one manufacturer of alkali has already received orders from France, which he never had before;" and the Glasgow Chamber had stated that "in the article of iron and certain other commodities upon which the action of the Treaty can be observed, the demand is gradually and steadily increasing, and, as regards textile fabrics, a confidence amounting to moral certainty is entertained that a very large increase in the trade will take place." We may also add, appropriately, here that the Master-Cutter, at Sheffield, last week observed:—"It is true, as has been said, that we have suffered very greatly from the loss of the American trade, but that loss has already been partially made up by the increase of the French trade. You will scarcely believe it, but although our exports this year have, on the whole, been 20 per cent. less than last year, and although many classes of our goods are not admitted to France until October, our exports to that country have increased 50 per cent."—*Gateshead Observer.*

THE MEETING OF THE WATERS.—The true lovers of the beautiful and useful are offered, as will be seen by our advertising columns, the chance of securing by that most legitimate standard of value, public competition, the permanent possession of one of, if not the most beautiful spot in Ireland, certainly the most renowned, thanks to the poetical effusions of the native bard, Tom Moore. "The Meeting of the Waters," the very spot where he sojourned and enjoyed the hospitalities of admiring friends, is to be sold by auction, and we hope it will fall into hands with ample means to do full justice to the unequalled elements for either one of the most delightful aristocratic residences for an hotel of a respectable class for the reception of tourists or visitors. We remember the days when the coaches brought their heavy freights of passengers anxious to enjoy the beauties of Nature of this lovely spot and its immediate neighbourhood; but, the giant revolutioniser of the tide of excursionists—the steam-engine—and the loss of day coaches from Dublin, and from the South—have of late years greatly thinned the number of visitors. However, the rapid progress of the Dublin, Wicklow, and Wexford Extension Railway, which has now the first section finished to Rathdrum, not three miles from the "Meeting of the Waters," and will in another twelve months extend to this point, with, as we hear, a station at the Lion's-bridge, adjoining the Meetings, will undoubtedly bring a fresh influx of admirers of the celebrated scenery of the romantic Vale of Ovoca, of which the poet says: "There is not in this wide world a valley so sweet!" For a private residence or hotel the railway will afford all the accommodation that can be desired, without any of the many little annoyances arising from the turmoils at the principal terminus. Taking everything into consideration, we know of no spot upon which one would sooner settle down either for pleasure, business, or quietude, than the far-famed "Meeting of the Waters," particularly as it is of most rare occurrence that so compact a demense, daily increasing value, can be secured for posterity.

* * * With this week's *MINING JOURNAL & SUPPLEMENTAL SHEET* is given, which contains the proceedings of the South Wales Institute of Engineers—the Working of thin Seams of Coal—the Bristol Mining School—the Cornish Engine—Underground Machinery—Motion of Slide Valve.—Manufacture of Malleable Iron and Steel—Mansfield Copper-Slate Mines in Prussian Saxony—Mineral Wealth of South Wales—Mining in Australasia—Improvements in Gas Meters, &c.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, September 20, 1861.

COPPER.	£ s. d.	BRASS.	Per lb.
Best selected...ton	101 0 0	8 1/2d.-9 1/2d.	
Tough cake.....	98 0 0	9 1/2d.	
Wire.....	98 0 0	10 1/2d.-10 1/2d.	
Sheets.....	98 0 0	10 1/2d.-10 1/2d.	
Wire.....	98 0 0	10 1/2d.-10 1/2d.	
Tubes.....	98 0 0	10 1/2d.-10 1/2d.	
IRON.	Per Ton.	FOREIGN STEEL.	Per Ton.
Sheets, in kegs (rolled).....	—	Swedish, (in kegs (rolled)).....	—
Wire.....	—	Ditto, (hammered).....	14 10 0-15 0
Tubes.....	—	Ditto, (faggots).....	15 10 0-—
Sheathing & bolts.....	—	English, Spring.....	18 0 0-23 0
Bottoms.....	—	Bessemer, Engineers Tool.....	4 0-—
Old (Exchange).....	—	Spindle.....	30 0 0-—
LEAD.	Per Ton.	QUICKSILVER.	7 0 0 p. bottle
Bars, Welsh, in London.....	6 5 0	Foreign.....	18 7 6-—
Ditto, to arrive.....	6 0 0	To arrive.....	18 10 0-18 12 6
Nail rods.....	7 0 0	ZINC.	—
Stafford, in London.....	7 0 0	TIN.	—
Bars.....	7 10 0-8 0 0	English, blocks.....	120 0 0-—
Ditto.....	8 10 0	Ditto, Bars (in barrels).....	121 0 0-—
Pig, No. 1, in Wales.....	3 0 0-4 0 0	Ditto, Refined.....	122 0 0-—
Refined metal, ditto.....	4 0 0-5 0 0	—	—
Bars, common, ditto.....	5 0 0	—	—
Ditto, merchant, in Tins.....	6 10 0	—	—
Ditto, railway, in Wales.....	5 0 0-5 2 6	—	—
Ditto, Swed, in London.....	10 5 0-11 0 0	—	—
To arrive.....	10 10 0	—	—
Pig, No. 1, in Clyde.....	2 8 0-2 10 0	TIN-PLATES.*	—
Ditto, f.o.b. in Tins.....	—	IC Charcoal, 1st qua, p. bx. 1	8 0 1 9 0
Ditto, forge, f.o.b. in Tins.....	—	IC Ditto 1st qua, p. bx. 1	14 0 15 0
Staffordshire Forge Pig.....	3 10 0-3 12 6	IC Ditto 2d qua	1 4 6 1 6 6
Welsh Forge Pig.....	—	IX Ditto 2d qua	1 11 0 13 0
LEAD.	—	IC Coke.....	1 2 0-—
English Pig.....	10 5 0-21 10 0	IX Ditto.....	1 8 0-—
Ditto sheet.....	20 5 0-20 10 0	Canada plates....p. ton 12 10 0-13 0 0	—
Ditto red lead.....	22 0 0	In London; 20s. less at the works.	—
Ditto white.....	28 10 0-30 0 0	Yell. Metal Sheathing, p. lb. 8 1/2d.-9 1/2d.	—
Ditto patent shot.....	22 10 0-23 0 0	Indian Charcoal Pigs} 6 12 6-6 15 0	—
Spanish.....	18 10 0-18 15 0	At the works, ls. to 1s. 6d. per box less.	—

REMARKS.—During the past week the Metal Market has exhibited rather less activity, though a good feeling is manifested, and prices for the most part remain firm. Foreign orders still come over very tardily, but the accounts from many of the Indian and continental markets, as well as China, are of a far more satisfactory character than for some time past. The decrease of the Bank rate of discount will doubtless, to a certain extent, exercise a salutary influence on our market; the reduction, however, was pretty generally anticipated, so that any beneficial results therefrom have probably been rather forestalled.

COPPER.—Since our last week's report English descriptions have not materially altered their position. Smelters are very firm in price, and well supplied with orders, especially for cake and ingot. The orders for unmanufactured are mostly for home consumption. The expectation of a further rise shortly taking place in fixed rates seems very prevalent; very few parcels, therefore, are offering in the market. There has been a good business transacted in foreign during the week, but holders now are for the most part disinclined to realise at existing rates. Burra Burra, 100L; Kapunda, 99L, to 100L; Chili in Liverpool, 90L; Copiapo, 96L; Alten, 99L. Yellow metal has been rather more in demand of late for shipment to India, but sellers are unable to obtain full prices, buyers invariably requiring concessions to the extent of at least 1d. per lb. off fixed prices.

IRON.—Though reports come from some of the manufacturing districts of a rather less gloomy character of late, there are at present no signs of returning animation in our market. Rails are not in any better demand, and prices certainly not looking upwards. Merchant bars continue in ordinary request, at 5L. 2s. 6d. to 5L. 5s. at the works; 6L. f.o.b. in London. Staffordshire makers report rather better enquiry, but orders are still very eagerly sought after, and only first-class brands saleable. Swedish bars somewhat inactive. Inferior assortments have been offering ex-ship at 10L. 5s., and have not succeeded in finding purchasers; fine specifications have realised 10L. 7s. 6d. Scotch pigs have slightly receded all the week, and but a small business has been doing; mixed numbers are now quoted 50s. 9d.—6d. per ton lower than last week.

LEAD.—In English pig an improved feeling exists, a rather better demand having sprung up; ordinary soft quality has improved to 19L. 5s.; best bands about 20L. 10s.; sheets and shot dull of sale at quotations; Spanish pig, 18L. 10s. to 18L. 15s.

SPELTER.—This metal seems to have almost entirely lost its attractions. The market is now very quiet; 18L. 7s. 6d. is the price quoted, but buyers do not seem particularly anxious to operate. Transactions are reported during the week at 18L.

ZINC.—Zinc firm at 24L, and in fair request.

TIN.—The market remains steady. Business done in Straits at 117L. for cash. Banca, 118L.

TIN-PLATES.—are more enquired for, and the price has advanced 6d. per box; manufacturers' quotation for IC coke, 22s.

STEEL.—Swedish keg in better demand, and quoted 14L. 10s. to 15L. hammered quality.

Glasgow, Sept. 19.—The market has been active to-day, and over 20,000 tons have changed hands, at 50s. 7 1/2d. cash, closing buyers; sellers, 50s. 9d. No. 1. g.m.b., 50s. 6d.; No. 3, 49s. 6d.

ADELAIDE, JULY 25.—Mining matters are very quiet. There are a great number of the new companies now at steady work at Wallaroo and other places, and some of them are looking very well indeed, but there is very little speculation in the share market. Metals remain much as they were, except galvanised iron, which is hardly in good enquiry. The South Australian Mining Association continue to sell their copper at 92L. 10s. per ton. Mr. Bagot recently presented a petition from Messrs. Neales, Colley, and Singleton on behalf of the Great Northern Mining Company, praying that the mineral regulations of Oct. 18, 1860, be made retrospective, so as to extend their benefits to that company. The petition contained a correspondence, showing that the Government promised on Nov. 18 last to bring the matter before Parliament, with a view to having the regulations made retrospective. A similar petition has been presented in the Upper House.

in the price per ton of ore about 1s. Compared with the corresponding sale of last month the advance has been—in the standard 4*l.* 5*s.*, and in the price per ton of ore about 1*l* 4*s.* Of the 1804 tons of copper ore sold on Tuesday, 635 tons were from British mines, which gave an average produce of 9*9*—16, and sold at an average standard of 11*4* 10*s.* 6*d.*—=8*l.* 12*s.* per ton of ore. The remaining 1171 tons were foreign ores, which gave an average produce of 15*s.*, and sold at an average standard of 10*6* 6*s.* 6*d.*—=14*l.* 2*s.* 6*d.* per ton of ore. On Oct. 1, there will be offered for sale 1720 tons of ore, from Cobe, Berehaven, Cuba, Knockmahon, West Kaim, Holyford, and Australia.

The directors of the Devonshire Great Consolidated Copper Mining Company, at their board meeting, held yesterday, declared a dividend of 7*16*—7*s.* per share, arising from profits on sales of copper ores sampled in the months of May and June last. After payment of the same there remains in hand a balance of 18,738*l.* 12*s.* 3*d.* in cash, ore bills not at maturity, and reserved fund applicable to the general purposes of the company.

At Frank Mills Mine meeting, on Sept. 13 (Mr. W. T. Smith in the chair), the accounts showed—Balance last audit, 7168*l.* 12*s.* 6*d.*; calls received, 2556*l.* 5*s.* 40—=3967*l.* 8*s.* 10*d.*—Mine cost, merchants' bills, and sundries, 1750*l.* 11*s.* 7*d.*; leaving credit balance, 2216*l.* 17*s.* 3*d.* The profit on the two months' working was 80*l.* 3*s.* 9*d.* A dividend of 750*l.* (3*s.* per share) was declared, and 1456*l.* 17*s.* 3*d.* carried to credit of next account. Capts. J. P. Nicholls and J. Cornish reported that the continued dry weather had impeded them. They have 116 hands at present employed.

At the Great Wheal Vor United Mines meeting, on Wednesday (Mr. G. Neaker in the chair), the accounts made up to the day of meeting showed a balance of assets over liabilities of 5050*l.* A distribution of 7*s.* per share was made, carrying over a balance of 2835*l.* to the credit of the next account. The details will be found in another column.

At Alfred Consols meeting, on Monday, the accounts for May and June showed—Balance last audit, 898*l.* 9*s.* 6*d.*; mine cost, merchants' bills, and sundries, 3232*l.* 17*s.* 6*d.*—=5053*l.* 14*s.*—Tin sold, 1456*l.* 6*s.* 6*d.*; leaving debit balance, 3597*l.* 7*s.* 7*d.* The loss on the three months' working was 1567*l.* 11*s.* 1*d.* A call of 5*s.* per share was made. The agents reported upon the various points of operation. The cost charged in this quarter for the man-engine is about 300*l.* The average settings for the quarter have been—67 men on turnwork, 3*s.* 4*s.*; 36 men on tribute, 3*s.* 1*s.*

At Wheal Reeth meeting, on September 11, the accounts for the three months ending June showed—Balance last audit, 2029*l.* 16*s.* 6*d.*; mine cost, merchants' bills, and sundries, 1611*l.* 1*s.* 2*d.*—=2753*l.* 10*s.* 6*d.*—Copper ore sold, 1109*l.* 2*s.* 4*d.*; leaving debit balance, 1650*l.* 8*s.* 2*d.* A call of 6*s.* per share was made. Capts. Uren and Hosking reported that the prospects of the mine have considerably improved. Should the north lode in the 140 cross-cut and the main lode in the 120 east continue to improve they hope soon to be in a position to pay cost.

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At the Prudeaux Wood meeting, on Sept. 10, the accounts for the four months ending June showed—Balance last audit, 345*l.* 8*s.* 3*d.*; calls received, 635*l.* 15*s.*; copper ore sold, 251*l.* 8*s.* 1*d.*—=1232*l.* 11*s.* 4*d.*; mine costs, merchants' bills, and sundries, 77*l.* 6*s.* 9*d.*; leaving credit balance, 459*l.* 4*s.* 7*d.* They will sample this week about 50 tons of copper ore.

At West Fowey Consols meeting, on Sept. 10, the accounts showed—Balance last audit, 109*l.* 15*s.* 5*d.*; copper ore sold, 750*l.* 15*s.* 1*d.*; black tin sold, 441*l.*; sundries, 3*s.* 1*s.* 10*d.*—=5284*l.* 9*s.* 4*d.*—Mine cost, merchants' bills, and sundries, 1471*l.* 15*s.* 5*d.*; leaving credit balance, 572*l.* 9*s.* 1*d.* A committee, consisting of the Rev. E. J. Treffry, M.A., Messrs. R. T. Head and Edward Lambert, with Major Davis and Mr. West (or any three of them as a quorum), was appointed for the purpose of arranging the terms for a renewed grant for 21 years from the expiration of the existing leases of Roselawn estate, either with the new trustees of the said estate when confirmed by the Court, or with any other party legally authorized to make the grant. Captains Puckey and Dunstan reported upon the position and prospects of the adventure.

At the Pelyn Wood Mine meeting, on Tuesday (Mr. T. Fuller in the chair), the accounts showed a debit balance of 1680*l.* 4*s.* 3*d.* A call of 1*s.* per share was made. Details appear in another column.

At Penhale Moor meeting, on Sept. 13, Messrs. J. Marshall, W. Briggs, and S. Lawson were appointed the committee of management. A call of 5*s.* per share was made.

At Durlo Mine meeting, on Sept. 10, the accounts for the quarter ending July showed—Balance last audit, 376*l.* 19*s.*; the salt and sundry miners, 1903*l.* 2*s.* 9*d.*—=2280*l.* 1*s.* 9*d.*—Mine cost, merchants' bills, and sundries, 419*l.* 12*s.* 3*d.*; dues, 82*l.* 18*s.* 2*d.*; Stannary dues, 17*s.* 19*s.* 5*d.*; banker's interest and commission, 44*l.* 13*s.* 9*d.*; leaving balance in favour of mine, 285*l.* 5*s.* 1*d.* There was a loss of 91*l.* 13*s.* 1*d.* upon the quarter. It was resolved that another agent should be appointed, the salary and appointment to be left with a committee, consisting of Messrs. Bolitho, Higgs, Coulson, Bamfield, Pool, White, and Berryman. The report of Capt. R. James and B. Martin stated that the improvement at Magey's shaft continue, the value of the mine will be much enhanced by the end of another quarter.

At Wheal Lushington meeting, on Tuesday (Capt. Bray in the chair), the accounts for June and July showed—Tin sold and carriage, 2021*l.* 14*s.* 10*d.*; use of burning-house, 2*s.* 17*s.* 6*d.*—=205*l.* 12*s.* 4*d.*—Balance last audit, 2*s.* 7*s.* 1*d.*; mine cost, and merchants' bills, 172*l.* 11*s.* 3*d.*; dues, 162*l.* 12*s.* 7*d.*; leaving credit balance, 14*l.* 1*s.* 5*d.* The profit on the two months' working was 16*l.* 8*s.* 6*d.* It was resolved that Stannary proceedings be commenced against adventurers in arrear of call.

At the Exmouth Mine meeting, on Sept. 13 (Mr. W. T. Smith in the chair), the accounts showed—Balance last audit, 1205*l.* 9*s.* 4*d.*; mine cost, merchants' bills, and sundries, 1560*l.* 18*s.* 9*d.*—=2766*l.* 8*s.* 1*d.*—Calls received, 928*l.* 4*s.* 5*d.*; ore sold, 1035*l.* 17*s.* 4*d.*; dues remitted and sundries, 617*l.* 14*s.*; leaving debit balance, 740*l.* 12*s.* 4*d.* A call of 2*s.* 6*d.* per share was made. Capts. J. P. and John Nicholls reported that the tribute department was not looking quite so well, but should the shoot of ore between the 60 and 72 turn out according to present appearance they hope to somewhat increase the quantity for their next sampling; the quality will also be better. There are 132 hands employed.

At the Gernick Mine meeting yesterday (Mr. Lankshear in the chair), the accounts showed a credit balance of 8*l.* 9*s.* 2*d.* A call of 1*s.* per share was made.

At the Wheal Grylls meeting, on Wednesday (Mr. Peter Watson in the chair), the accounts showed a credit balance of 157*l.* 5*s.* 7*d.* The purchase of the stamping machinery was confirmed, and, in order to provide the necessary funds, a call of 1*s.* per share was made. The committee of management were re-elected. Details appear in another column.

The directors of the Port Phillip and Colonial Gold Mining Company have received by the present Australian mail a remittance of 1500*l.*

The Great Northern Copper Mining Company of South Australia, at a sale of copper ore held at Swansea, on the 17th inst., sold the following parcels of ore:—

1. 49 tons.	25 <i>s.</i> 4 <i>d.</i> per cent.	£22 11 0 per ton.
2. 48 tons.	25 " "	20 17 0 "
3. 39 tons.	23 <i>s.</i> 6 " "	20 17 0 "

LEEDS, SEPT. 19.—In Mining Shares, including some of the progressive mines, a fair amount of business has been transacted. The prospects and position of the progressive mines are held to be favourable, according as they are well or ill-managed by the directors, who have the sole control of these undertakings, including the mines, and all officers connected with them:—Bream Consols, 17*s.* to 20*s.*; Cornubia, 15*s.* to 16*s.*; Craven Moor, 3*s.* 6*d.* to 4*s.* 6*d.*; Hebdon Moor, 20*s.* to 25*s.*; Merryfield, 5*s.* 6*d.* to 6*s.* 6*d.*; Nidderdale, par: North Jane, 40*s.* to 55*s.*; Wensleydale, 7*s.* to 8*s.*; North Hallenbeam, 15*s.* to 20*s.*; Yorkshire, 10*s.* to 11*s.*

A meeting of the WET GROVES LEAD MINING COMPANY was held at the White Horse, Leeds, on Thursday, when a call of 2*s.* 6*d.* per share was made to further develop the mine, and carry on the works with vigour. This company is working a sett under Lord Bolton, well situated in Wensleydale, in the same district and strata, and under the same lead, as the famous Keld Head Mine, which for so many years has paid such large and continuous dividends to the fortunate shareholders. About three years ago the Wet Groves Mine was very rich, and a large quantity of lead was obtained in a short time; since then different levels have been driven, the workings extended, and the mine drained and ventilated, during which they have been getting more or less ore, and are now making an important trial, which we hope will prove successful. The mine is in a very efficient state, with good prospects for the future. We believe we are correct in stating that the Keld Head Mine has on the average for some years past paid upwards of 30,000*l.* a year in dividends, and 1*l* 6*s.* royalty to the noble lord, the owner of this valuable property. JOHN GLEDHILL & CO.

COAL MARKET.—On Monday, only eight fresh ships arrived; the small quantity of house coal was freely taken off, at 3*d.* per ton advance in price. Hartley's were in excess, and to effect a clearance a reduction of 6*d.* per ton was submitted to. Manufacturers' dull, and rather lower in value. Best house coals, 17*s.* 9*d.* to 18*s.* 3*d.*; seconds, 15*s.* 6*d.* to 16*s.* 6*d.* per ton; Hartley's, 14*s.* to 14*s.* 9*d.*; manufacturers', 12*s.* to 14*s.* 6*d.* per ton.—On Wednesday, the arrival of 160 fresh ships caused an animated business in house coals, and a large sale was effected, at about 6*d.* per ton advance on Monday's quotations. Hartley's and manufacturers' met with more enquiry, but no improvement in value.—On Friday, 15 ships arrived. The quantity of house coal on sale was so trifling that a partial advance of 3*d.* per ton was obtained. Hartley's and manufacturers' without change in value, but in rather better demand. Hetton Wallsend, 19*s.* 3*d.*; Russell's Hetton Wallsend, 17*s.* 6*d.*; Kepier Grange Wallsend, 17*s.* 6*d.*; Harton Wallsend, 17*s.*; Hartley's, 14*s.* to 15*s.*; manufacturers', 12*s.* to 14*s.* 6*d.* per ton; 6 cargoes unsold; 85 ships at sea.

THE SULPHUR TRADE—THE WICKLOW MINING COMPANY.—A correspondent, writing from Dublin, says:—"I have been here for some days, and have endeavoured to fathom the mystery of Wicklow Copper shares declining at the rate of 7 to 8 per cent. in one week, while Connors shares continue steady at 75 to 80 per cent. premium. If there is no substantial reason for the falling off of the price for Wicklow Copper shares it must be the apprehension that the price of sulphur (iron pyrites) will suffer a great reduction in consequence of Spanish competition in the sulphur market of England. But if this apprehension is founded on sound commercial judgment, I cannot understand by what magic power the shareholders of Dublin manage to keep Connors shares bolstered up to the extraordinary price they still maintain, while all the chances of the mine are yet but speculative, and if the expectations are even realised, will be realised only in sulphur, which is a produce the

instability of the price of which throws doubt on the steadiness of the dividends for many years so regularly paid by the Wicklow Copper Mining Company. The speculative public of Ireland seem to forget that the mines of the Wicklow Copper Mining Company have large reserves of copper, hitherto only neglected in consequence of the production of sulphur having absorbed all the available hands."

ROYAL CORNWALL POLYTECHNIC SOCIETY.—The twenty-ninth annual exhibition of this Society commenced on Tuesday. The Fine Arts' collection was unusually attractive. In the mechanical department Bailey's steam-gauge was referred to. The merits of the new metallic safety-fuse, and of Prof. Abel's method of exploding blasting-charges by magnetoelectricity were discussed. The question of making the Society itinerant was adjourned. We shall next week give the details of the proceedings.

THE EAST DEL REY MINING COMPANY.—The unusually favourable terms upon which this property is presented to the public, and the prospects which it appears to present of speedily becoming remunerative, being situate within six miles of the celebrated mines at Morro Velho, has acted as a great incentive with the public. The statement that has been made with regard to the employment of slave labour is altogether negatived by the fact that the company propose to engage labourers by the ordinary system of contract carried out in the Brazils; and in reply to the objection which has been urged as to the difficulty of securing an adequate proportion of labour, it is urged that as the company's property is situated between Morro Velho and the labour market, Sabara, the East del Rey Company will experience far less difficulty in at all times obtaining a sufficiency of labour than the property situated at a greater distance from Sabara. The company has secured the lease of the property for 50 years, paying the sum of 2500*l.* for the machinery, water-wheels, and the whole of the mining plant, the lessor throwing the whole of his interest into the success of the enterprise. As an evidence of the anxiety of the directors that no time should be lost in commencing operations, we hear that Capt. W. Treloar, accompanied by a large staff of artizans and miners, will leave England by the next mail (Oct. 9), with instructions to prosecute the works with the utmost vigour. The property, which is situated but a short distance from that of the St. John del Rey, is provided with water-power equal to all its requirements.

THE NEW SLATE COMPANY.—In last week's Journal we announced the introduction of a novel feature into the prospectus of the Slate Mountain Company—that of the manager guaranteeing a dividend during the first year, and it appears that the public fully appreciate the benefits likely to result from such an arrangement. The acknowledged value of the property proposed to be worked by the company, coupled with security which a guaranteed dividend affords to the capitalist, has secured a very considerable amount of public confidence, the consequence being that so large a number of shares have been applied for that the directors have decided upon closing the subscription list (as will be seen by the advertisement in another column) on Friday next. The allotment of shares will be proceeded with immediately after, and regular and extensive operations will be forthwith commenced. The most sanguine expectations are entertained with regard to the capabilities of the quarry, and no doubt is entertained that the guaranteed dividend of 5 per cent. will form but a small proportion of the profits which the shareholders will realise.

THERAPEUTIC APPLICATION OF COAL TAR.—The purposes to which minerals and mineral products may be applied seem to be almost without limit, the most recent instance of which is, perhaps, the application of coal tar as a disinfectant for therapeutic purposes. In a series of elaborate articles published in the French "Monitor of Medical and Pharmaceutical Sciences," Dr. J. Lemaire records a large number of cases in which a preparation of coal tar has been successfully employed in the treatment of putrid ulcers and various scrofulous affections. This tar has been tried by several practitioners other than Dr. Lemaire, and in every case an equal amount of success has been the result. The saponified coal tar which has been used is the preparation of Mr. Lebeuf, of Bayonne. It will be remembered that we have already pointed out the beneficial effects of peat charcoal for similar disinfecting purposes, and presume that coal tar would be more easily applied and more readily obtainable.

LABUAN COAL MINES.—From Singapore favourable accounts have been received of the prospects of the Labuan coal mines. The preparatory works have been prosecuted with energy, and the health of the island has improved. No difficulty seems to be anticipated in procuring Chinese and Malay labour, and it is probable that the coal will be raised by contract. Although the clearing off of the mine and the repairs of the old plant required to be completed, a small quantity of coal was already being regularly brought out. A new pit to be sunk, but this will not be done until coal to some extent has been raised from the present workings. The mail of next month will bring a full report.

TIN-PLATE MANUFACTURE.—As an improvement upon the ordinary mode of manufacturing tin and tinner plates, and of coating sheets or plates of iron with lead or tin, or alloys of lead and tin, Messrs. Banks and Morgan, of Kidderminster, propose to use, on the surface of the bath of melted metal with which the iron is to be coated, resin, either alone or mixed with tallow, palm oil, or other fatty matters, or with an ammoniac or other flux. These fluxes are used as a substitute for the grease or flux usually employed.

MAKING IRON DIRECT FROM THE ORE.—An invention, the object of which is to decompose iron ore by the use of carbon white in a heated cylinder, that is not only closed to the atmosphere, but also to the flame or heated gases from the furnace by which the said cylinder is heated, has been patented by Mr. Isaac Rogers, of Haverstraw, New York. By this present invention, which is an improvement upon that of 1855, he finds that a very excellent quality of wrought-iron can be obtained.

GOLD AT SEA.—By the arrival of the overland mail we have advices of the shipment of 122,053 ozs. of gold, of the value of 488,212*l.*, or nearly half a million sterling, in the following vessels:—*Swiftsure*, for London, now out 79 days, 51,217 ozs. (204,888*l.*); the *Menes Wilson*, for London, out 72 days, 19,058 ozs. (76,232*l.*); and the *Lincolshire</i*

Now ready, price 1s.
THE PROGRESS OF MINING IN 1860,
BEING THE SEVENTEENTH ANNUAL REVIEW.
By J. Y. WATSON, F.G.S., Author of the *Compendium of British Mining* (published in 1848), *Gleanings among Mines and Miners*, &c.

The SIXTEENTH ANNUAL REVIEW OF MINING PROGRESS appeared in the MINING JOURNAL of December 31, 1859, and January 7, 1860.

A FEW COPIES of the REVIEW OF 1858, containing Statistics of the Metal Trade, the Dividends and Percentage Paid by British and Foreign Mining Companies, and the State and Prospects of upwards of 200 Mines. Also A FEW COPIES of the REVIEW OF 1852, 1853, and 1854, MAY BE HAD on application at Messrs. WATSON and CUELL's Mining offices, 1, St. Michael's-alley, Cornhill, London.

Also, STATISTICS OF THE MINING INTEREST. By W. H. CUELL.

WATSON AND CUELL'S MINING CIRCULAR, published every Thursday morning, price 6d. or £1 1s. per annum, contains Special Reports of Mines, and the Latest Intelligence from the Mining Districts, from an exclusive resident agent; also, Special Recommendations and Advice upon all subjects connected with Mining, and interesting to Investors and Speculators. A Record of Daily Transactions in the Share Market, Metal Sales, and General Share Lists, &c. Edited by J. Y. WATSON F.G.S., and published by WATSON and CUELL, 1, St. Michael's-alley, Cornhill.

N.B. Messrs. WATSON and CUELL have made a selection of a few dividend and progressive mines, which they have reason to believe will pay good interest, with a probability, also, of a rise in value, the names and particulars of which will be furnished on application.

INVESTMENTS IN BRITISH MINES.—Mr. MURCHISON'S REVIEW OF BRITISH MINING for the QUARTER ENDING 30TH MARCH, 1861, with Particulars of the Principal Dividend and Progressive Mines, Table of the Dividends Paid in the last Five Years, &c., is NOW READY.

Price One Shilling. At 117, Bishopsgate-street Within, London, E.C.

Reliable Information and advice will at any time be given on application.

Also, COPIES of "BRITISH MINES CONSIDERED AS AN INVESTMENT." By J. H. MURCHISON, Esq., F.G.S., F.S.S. Pp. 356, boards, price 3s. 6d., by post 4s. See advertisement in another column.

JOINT-STOCK COMPANIES PROMOTED, REPORTS, PROSPECTUSES, NEWSPAPER NOTICES, &c., PREPARED, and ADVERTISING ECONOMISED, by Mr. LEE STEVENS, No. 36, CANNON STREET, LONDON, E.C.

MINING AND ENGINEERING CONTRACTS EFFECTED.

Notices to Correspondents.

* * * Much inconvenience having arisen, in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly filed on receipt: it then forms an accumulating useful work of reference.

STATE QUARRIES.—The rapidly increasing interest in slate quarrying on the part of the public, causes the want of a reliable list of the companies in operation to be very generally felt—to meet this want we intend to compile such a list, and make it a separate feature in our last page. We shall, therefore, be much obliged if secretaries and managers will furnish us with the details necessary to make the return correct, and keep us advised of any alterations.

NORTH NANT-Y-MWN.—Will the secretary of the company inform me who is the manager, and who is the captain, of this mine? If there is any captain, why are the reports not furnished to the Journal? A call of 1s. per share has been made, but I have received no notice of the meeting. May I ask why a statement of the finances of the company has not been forwarded to the shareholders, showing its true position? What has become of the 12 tons of lead said to be ready for market? Is there any such quantity, if so, why has it not been sold, and accounted for?—A SHAREHOLDER.

GREAT WHEAT MARTHA.—Mr. Evans, in his reply to my letter, says that the directors always meet on the exact days fixed for the board meetings; perhaps he will be a little more explicit, and tell us whether the meetings are once in three months, or how often? My transfer was at the office upwards of a month after Mr. Evans promised to forward the certificate. It appears that my complaint is not a solitary one. In another journal I read in the Notices to Correspondents the following—"GREAT WHEAT MARTHA.—Your complaint is a general one. Scarcely a day passes without our receiving a letter from shareholders not being able to get their certificates. The secretary promises an improvement for the future." Now, Sir, whether all these complaints come from parties who have recently become shareholders I know not, neither does it matter. Surely new shareholders have as much right to have their letters acknowledged, and their certificates returned, as old ones. I may just observe that Mr. Evans stated his inability to find directors when he wanted them as the cause of my certificate not being forwarded; whereas he now says that they always meet on the board days.—A SHAREHOLDER.

GREAT WHEAT MARTHA.—In your Notabilia of last week, referring to this mine, a correspondent states "that it has been proposed to increase the capital from £2,500 to 20,000 shares." By request of the board of directors, I beg to inform you that no such proposition has ever been either entertained or discussed at any of our meetings. I hope you will give publicity to this statement.—JAMES WRIGHT, Chairman of the Board of Directors: 42, Bridge-street, Sept. 19.

GREAT WHEAT MARTHA.—If a Shareholder has reason to complain of any particular director, he should address a letter to the board. An authoritative answer to his statement as to the intended increase of capital appears in another Notice.

GREAT WHEAT MARTHA.—In a paragraph which appeared in last week's Journal it was stated that Capt. Richards had inspected this property, and had made a favourable report. Now, as this property has been recently inspected by Capt. J. Richards, of the Devon Great Consols, as well as by Capt. Joseph Richards, of Pelym Wood Mine, it would be more satisfactory to those interested to know which of these agents made this favourable report; the more especially as it is said that Capt. James Richards, after having inspected the mine for a large shareholder, had made anything but a favourable report.—AN INQUIRER.

SMITH'S WOOD, AND BIGFORD CONS.—The letter of "Fair Play" can only appear with the writer's name attached.

AURIFEROUS STEEL.—*Erratum*—In my letter of Sept. 10, for "He proposes an alloy containing only 67 one-millionths of an ounce in each ounce of iron," please read "Only 67 one-hundred-millionths."—J. WEBB: Tipton, Sept. 16.

THE MINING JOURNAL Railway and Commercial Gazette.

LONDON, SEPTEMBER 21, 1861.

The official advices already received from the British colonies and dependencies indicate that the mineral and geological departments of the INTERNATIONAL EXHIBITION of 1862 will be as well represented as could be desired; indeed, most of the suggestions and recommendations we have made from time to time during the last six months are likely to be carried out. The public, and those especially interested in mineral products, will have such an opportunity of investigating the mineral riches of our colonies as has never before been afforded, and the result to the engineer and manufacturer cannot but be beneficial. So detailed and interesting are the accounts, that we can only take one section in our present Journal—the Australian.

In New South Wales the committee appointed to attend to mineral products consists of the Rev. Wm. B. CLARKE, M.A., Captain WARD, R.E., Deputy Master of the Mint, and the Hon. R. J. WANT, Member of the Legislative Council. The articles expected to be sent are gold, silver, platinum, tin, iron, lead, antimony, ornamental stones and marbles, building stones, limestone, gypsum, heavy spar, plumbago, coal, sulphur, rock salt, slates, asbestos, sand for glass, clay for pottery, native salt, including alum, &c. The local commissioners state that they are anxious that the collection to be transmitted should be such as to afford a full and adequate representation of the products and resources of the colony, and that the specimens selected, without being too bulky, should be of the choicest character, and as varied as possible. That they should be also more particularly illustrative of objects of present wealth and prosperity, or of indigenous products which there is a reasonable presumption may hereafter prove of economic value or of commercial importance. Besides 3000l. voted by the Legislature of New South Wales, to be expended in promoting the exhibition of colonial products, the Government have advanced further sum of 5000l. for the purchase of gold specimens; the latter sum to be repaid after the sale of the gold at the close of the Exhibition. It is proposed by the colony to recognise meritorious contributors, and those who may actively co-operate with the local commissioners, by the presentation as prizes of silver and bronze medals.

The Mineral Products Committee in Sydney have solicited contributions from several quarters, among others from the following companies and individuals—Summer Hill Mine, Ophir and Canobolas Mine, Caranga Mine, Coal and Copper Company's Mine, requesting them to furnish specimens of all the different ores found in those mines, and of the rocks most prevalent, with, if possible, plans and sections showing the working of each mine. The individuals applied to have been—Mr. A. HODGSON, general superintendent of the Australian Agricultural Company's coal mines; Mr. MOOR, Commissioner of Crown Lands at Tamworth, asking him to forward marble and limestone, and others.

The committee have also communicated with the Commissioners of the Gold Fields, requesting them to furnish sample of not less than 6 ozs. in weight from each alluvial gold field in the district under their charge; there are about fifty gold fields in the colony. This is to be obtained by some trustworthy person on the spot from diggings actually at work, so as to leave no question that it is in its entirety the produce of that particular field. With each sample a small quantity (about a quart) of the "washing stuff," stating its average yield and thickness; a specimen of

each kind of deposit overlying the washing stuff, with a statement of the thickness of each, and of the order in which it occurs, and a specimen of the bed rock. Specimens of the auriferous quartz from reefs which are being worked, or which are considered capable of being worked with profit; accompanied in the former case by a statement of the machinery employed, the work performed, and the average yield per ton.

They have also addressed the owners of coal mines, requesting them to furnish samples of not less than half a ton of coal from each coal seam under their direction, either being worked, or capable of being worked with profit, informing them, at the same time, that these will be sent to England, first for display, and afterwards for the experimental determination of their commercial value. The whole of these samples are to be supplied under the supervision of the Government Examiner of Coal Fields. Implements and parts of machinery manufactured from colonial iron and steel are to be shown.

The Executive Council of New South Wales have appointed Mr. E. HAMILTON, the Commissioner for the Colony in London, and agent for the purposes of the Exhibition. This gentleman had already established a claim upon the consideration of the Colonial Government, by the many valuable services which he has rendered to the colony, and especially in the matter of ocean postal arrangements. For these Mr. HAMILTON has already received the thanks of the Government and both branches of the Legislature, and his name was, in the opinion of the Council, sufficiently before the public, both in Sydney and in England, to justify them in regarding him in all respects as the colonist best fitted to fill the office.

In Victoria, the committee appointed to attend to the fourth class—"Mineral Products, and the Manufactures and Processes connected therewith"—consists of Prof. MCOR, F.G.S., the Hon. J. B. HUMFFRAY, Member of the Legislative Assembly and Commissioner of Mines, and Mr. A. R. C. SELWYN, Government Geologist. It is proposed to send from Melbourne illustrations of mining and quarrying operations; examples of the metallic ores, with the matrices in which they are embedded, in samples not exceeding 1 cwt., accompanied, if possible, by a statement of the size of the vein or deposit, exact locality, depth from the surface, cost of extraction (when known), chemical constituents, market value, and any other information. Non-metallic mineral products, including geological specimens, building materials and lime, &c. The building stones are to be in blocks, capable of affording a dressed cube of 6 inches, with information relative to locality and cost of production. Sand, lime, gypsum, or plaster of Paris, cements, &c., in parcels not exceeding ½ cwt. Slates and flags, in sample sizes commonly used for flooring, roofing, or other purposes, with prices, exact locality, and any other information relating thereto. Clays of all kinds, in quantities not exceeding ½ cwt., with specimens of bricks, tiles, and pottery manufactured therefrom, with exact locality, and information relative to cost of production, &c. Coals and lignites, in bags or blocks not exceeding 1 cwt., with statement of the depth and thickness of seam or deposit, exact locality, and any information relative to cost of extraction, and probable market value, together with chemical constitution (when known). The Lords of the Admiralty have given instructions that Mr. ATHERTON, of Woolwich Dockyard, shall test for the colonies any samples of coal that may be sent, to ascertain their economic value as steam fuel. In order to obtain the best possible collection of specimens of gold, and, at the same time, to economise the resources placed at their disposal, the local commissioners have addressed themselves to the different banks, requesting their co-operation. It is anticipated that they will be allowed to make selections from time to time from the large quantity of the precious metal purchased by the banks, of specimens possessing peculiar attractions, by reason of size, richness, or on account of the ore being associated in an unusual manner with other minerals. If so permitted, these will be sent to England for exhibition, and sold when the object in view is attained, reasonable compensation being paid for the use of them. The Colonial Government has also been applied to to sanction the remittance of funds, for emigration or other public purposes, being made in crude gold, which, after it has been exhibited, would be disposed of in London on the public account.

No geological specimens, unless possessing especial interest or economic value, intended to be sent home, are to exceed 5 lbs. in weight. Geological maps, plans, and sections illustrating mining and other field engineering operations connected with the gold fields are asked for by the committee, as well as geological, mineral and mining models of strata and machinery, proportioned to a scale. The same gentlemen act as a committee for the 5th class—"machinery, instruments, tools, and implements."

A raised map of the colony, on a considerable scale, is about to be commenced; it will show the natural features of Victoria—its coast line, mountains, water-courses, plains, forests, roads, railways, &c. The alienated and Crown lands, the gold fields, &c., will be shown in distinct colours, and thus the visitor to the Exhibition will have before him a miniature Australia—as it is. He will see at a glance the enormous amount of land open for agricultural settlement, and the numerous gold fields scattered all over the colony; and, possibly, some erroneous ideas on the subject of the water supply will be removed by the long lines of rivers and creeks which the map will display. This feature of the Exhibition, therefore, may of itself be of great service to the cause of immigration.

In South Australia active measures have been taken by the Governor, who himself convened and presided at public meetings where the general arrangements were agreed upon, and the mineral products especially, in which this colony is so rich, will be well represented. In each of the colonies a local exhibition is to be held of the various articles before they are dispatched to London. Tasmania will have an interesting collection of mineral and metallurgical products, &c., including bituminous and anthracite coal, slate, limestone, gems, ochres, &c. The local commissioners have resolved that the sum of 300l. should be expended in the purchase of Tasmania gold for exhibition, the same to be afterwards sold.

The tract of country where gold has hitherto been found in Tasmania is limited in extent, and restricted probably (notwithstanding numerous reports to the contrary) to the north-east quarter of the island. In Australia, California, and other auriferous countries gold is worked in situ more or less; but in Tasmania it has hitherto only been found of a drift description, yet apparently removed in but a trifling degree from its original position in the quartz veins—it's undoubted matrix. Although there are other localities in Tasmania not unlikely to yield gold, it does not seem probable that it will now be obtained in such quantity, or for such a length of time, as materially to affect the commercial transactions of the colony, or to exert a deteriorating influence on the character and habits of its industrial population which has hitherto been so painfully obvious in rich mining countries. Fortunately for Tasmania, her future position and importance as a country, and the status of her inhabitants as a community, are far more likely to be determined by the yet undeveloped influences of the hidden treasures of coal and iron than by the thrifless and gambling habits and pursuits of nomadic gold hunters.

Paraffine oil from shale, to the practicability of manufacturing which in large quantities attention has recently been directed in the island, will be sent. Amongst its minerals, Tasmania is said to possess a compact brown hematite iron ore of exceeding richness, yielding a metal of such fine quality as bids fair to be valuable in the manufacture of boiler-plates and other articles where great strength and fineness of fibre are required.

Mr. GOULD, the Government Geologist, having been instructed to make a thorough exploration of the coal fields on the east coast, has published an official report, from which we learn that for immediate practical purposes he considers that the coal measures of that district may be regarded as constituting two distinct fields; one is the Mount Nicholas coal field, comprehending the separate portions developed on either side of the Break-o'-Day Valley, and the other the Douglas River coal field, comprising the carboniferous formations between Long Point and Bicheno. Each of these fields presents a principal seam capable of being worked with advantage and profit. The Mount Nicholas seam Mr. GOULD describes as probably unequalled by any other in the colony—possessing the combination of advantages of thickness, extent, ascertained quality, and reasonable cost of working. Mr. GOULD estimates that every cubic yard of this coal would yield a ton in weight: that, "at the most moderate computation," we might anticipate being able to extract the whole of the middle bed, yielding a thickness over 6 ft., ample allowance being made for losses of every description. Thus allowing for loss of half of the seam, every hundred yards of it would yield 20,000 tons of coal. "But (Mr. GOULD adds) it is likely that a considerably larger proportion of the whole amount of the coal contained might be profitably extracted—in which case the average of the yield would be proportionately increased." The second great seam which Mr. GOULD has discovered lies on the Douglas River, considerably to the west and north of the mines worked by the coal company, which were near the Denison Rivulet; it is 8 ft. in thickness. Mr. GOULD says of this coal that it is a bituminous, free-burning, non-caking coal, evolving great heat, and a considerable amount of gas; burning with a strong flame, leaving

a rather considerable amount of residual white ash; well adapted for all domestic purposes and for the manufacture of gas, and appearing to correspond closely with the 12-feet seam under Mount Nicholas. Mr. GOULD assumes, on a moderate computation, that 6 ft. could be extracted, yielding 20,000 tons in every 100 yards. He says "It probably underlies the whole of the country from Doctor's Creek to nearly as far as the Denison Rivulet." With the fact of the value of the coal for household use, and for application to the several branches of manufacture established, Mr. GOULD says, "The experiments made upon it from time to time have been upon too limited a scale to permit of the determination of its value as a steam fuel." Of course, the existence of a large and steady demand for this coal would be necessary to repay the cost of working the mines, and to return the capital expended in the construction of a tramway, in harbour improvements, &c. If it be demonstrated that the mineral is available as steam fuel, the question of the success of a great mining enterprise is at once solved. On this point it is necessary to seek conclusive evidence. And to establish the fact beyond all doubt, Mr. GOULD recommends the extraction of 150 or 200 tons of coal—sufficient to allow of an adequate trial of its qualities, to be made in some of the large ocean steamers, and a series of experiments to be made upon it by engineers and manufacturers in this colony and Victoria. The preliminary outlay of a few hundred pounds would suffice both for this object, and for such a survey of the country as would determine the question of the most available point for shipment.

From New Zealand the accounts are not yet very important; indeed, the native war, and the attention of the officials to the ways and means relating thereto, has drawn off a good deal of the attention; still some of the provinces will send good collections, and there will be many home exhibitors. The magnetic iron sand and the cutlery from it will occupy a prominent place. Various new gold fields are turning up. A paying gold field has lately been discovered in the province of Otago, on the Lindis River, a south tributary of the Chutta, rising in the Dunstan range of mountains. The Lindis is easy of access from Dunedin and Samara, being about 70 miles in a direct line from both these ports. It is reported that prospecting parties have been over a considerable space of country, and that gold has been discovered over an area of 40 miles square, but this statement requires confirmation. In the province of Nelson gold digging is still steadily pursued. The labours of those engaged in the neighbourhood of Wangapeka are well rewarded, and the new field promises to prove richer than any that has been yet worked there. We hope to see other mineral products sent from the New Zealand islands, so as to swell and add to the interest of this department of the Australian collection.

We this day publish the conclusion of the first series of the very interesting and valuable papers upon PRACTICAL COLLIERIES OPERATIONS, by Mr. JOS. GOODWIN, of the Hyde and Haughton Collieries, Manchester, and may fairly congratulate our readers upon having had an immense amount of practical information placed before them in a business-like and systematic manner. The principal departments into which the practical management of collieries naturally divides itself have been in turn treated of, and many valuable suggestions have been made for lessening the casualties, and removing the obstacles which have hitherto appeared almost inseparably connected with the getting of coal. The reader has been gradually led from the point at which the "winning" of the coal is commenced by the sinking of the shaft, through the various intricacies of the subject, until the pit is in full operation, and a regular and continued supply of coal is being raised, concluding only when he has had pointed out to him the duties and responsibilities of colliery managers upon whom depend the safety and success of the mine.

The sinking of shafts having been disposed of, Mr. GOODWIN carefully discusses the relative merits of the "long wall" and the "pillar and bord" systems, showing by the number of tons of coals raised for each death that the "pillar and bord" system is entitled to the preference. The system of working being decided upon, the pumping of water and the winding of coal next receive attention, followed by the *modus operandi* of getting coal, with remarks upon the principal systems employed; the ventilation of mines; remarks on faults, dislocations of strata, &c., in connection with the working of collieries; remarks upon the subsidence of the surface consequent upon the working of collieries; remarks upon the surveying of mines; remarks upon the accidents and loss of life in connection with the working of collieries; and an explanation of the duties and responsibilities of colliery managers. A more concise and useful series of papers could scarcely have been written; we may, therefore, commend them to the careful perusal of all engaged, whether directly or indirectly, in the production of that wonderful mineral which is the principal basis of England's greatness.

In the Supplement accompanying this day's Journal we give a very copious report of the Proceedings of the South Wales Institute of Engineers, at their annual meeting held at Swansea. In his opening address the President (Mr. LIONEL BROUH) referred to the fact that although the Institution had been in existence only four years they now numbered 202 members. After a few observations upon the abilities of Messrs. SAMUEL TRUMAN, of Dowlais; CALEB DAVIES, of Nant-y-Glo; and DICKENS, who have died during the year, he remarked that the proceedings of the present meeting would complete the second volume of their "Transactions," which would be issued in about two months. Mr. HANDEL COSSHAM read an interesting paper on "The Working of Thin Seams of Coal," and the papers of Mr. SIME on the "Cornish Engine," and by Mr. JAMES, on "Underground Machinery" were discussed, after which Mr. R. SCHMIDT read a paper on Prof. ZENNER's Diagram for showing the motion of the slide-valve.

The most remarkable feature in Mr. COSSHAM's paper was his statement that "he does not hesitate to say that thousands of people have been transported for less crimes than are committed against God and humanity by the reckless, careless destruction and wasteful way in which that wondrous (South Staffordshire) coal field is now working, involving, as it does, the destruction of over 300 lives annually, and over 60 per cent. of coal." Mr. COSSHAM also gives an estimate of the cost of working thin seams, stating that the total cost of raising coal from a seam 2 ft. to 2 ft. 6 in. thick, should not exceed 5s. 9d. per ton; from a seam 18 in. to 2 ft., 5s. 10d. or 5s. 11d.; and from seams 12 in. to 18 in., 6s. 3d. or 6s. 4d. From the remarks, however, of Messrs. ALEX. BASSETT, LIONEL BROUH, and THOMAS EVANS, it would seem that the advantages which have been obtained by Mr. COSSHAM are the result of accidental circumstances—such, for instance, as the opening of the pits on the most approved and recent method; and that the economy he effects is the result of natural causes. Mr. BROUH explained that accidents from falls of roof were almost impossible in the thin seams of the Bristol collieries. With respect to the accidents in South Staffordshire, Mr. BROUH referred to the South End Colliery, where, at his suggestion, the system of working the seam at twice had been introduced, since which there had been no accident to life or limb. Mr. COSSHAM pointed out the advantages of the Bristol Mining School, and concluded some appropriate remarks by soliciting substantial aid in the shape of donations and subscriptions.

No duty of the public journalist is more arduous than to foster and correct the advance or excess of the principles he advocates. It is natural that success shall beget imitation and rivalry, and that, in mining particularly, one great prize, or

the jurors are to be appointed by the votes of the exhibitors, it was determined, as soon as the list of exhibitors has been closed, that a meeting of the exhibitors shall be called, so as to unite the votes of all the exhibitors in that district in favour of persons competent to act as jurors.

The Annual Exhibition of the Staffordshire Agricultural Society is being held this week at Wolverhampton. These exhibitions afford another illustration of the extending use of iron in all departments of industry. The number of implements which are collected at this show is enormous; and it is not only in the more difficult operations of agriculture that iron implements come to the aid of the farmer, but the extent to which iron-fencing, gates, feeding-cratches, &c., are now employed helps to account for that extraordinary increase in the consumption of iron which the *Mining Journal* is frequently illustrating by statistical statements.

The new Education Regulations, promulgated by the Committee of the Privy Council, are exciting considerable attention in this locality. Teachers complain of the injustice which will be done to them by the forfeiture of the promises on the faith of which many of them entered the profession, whilst they draw the public attention to the injurious influence which they assert the new regulations will exercise on the education of the lower classes. The question is one of a serious character, and it strikes one as a summary procedure to revolutionise existing arrangements by a resolution of a committee—a course more in accordance with the practice of the *laissez faire* than that of one where private interests are always protected, and in which the rule is to make no change except after all parties have had an opportunity of stating their views.

The Birmingham Water-Works Company has declared a dividend for the half-year at the rate of 6½ per cent. per annum; and the Birmingham Gas-Light and Coke Company have declared the usual dividends for the half-year, at the rate of 9 per cent. per annum on the A and B shares, and 7½ per cent. on the new ordinary shares.

REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

SEPT. 19.—There has been no alteration of material importance to notice in connection with the Iron Trade in these counties during the week. The trade assumes a healthy tone, and there are more orders in hand, both for the home and foreign markets, than we have had to notice for some time past. The continuation of the American crisis is leading to a very strong assumption that the supply of cotton will be limited for some time to come. The manufacturers of Lancashire have intimated to their workpeople that it is probable they will not be enabled to maintain their mills in full work, owing to the apprehended scarcity of cotton. This fact causes a desponding tone to pervade the manufacturing trades of Lancashire.

The Coal Trade is not so active as is usual at this period of the year, which is mainly owing to the depression in the general trade, but as the demand for the autumn is beginning to be felt, an improvement may be immediately expected. At some of the collieries the men are not making full time, but this is owing to the fact that the stocks have been allowed to accumulate to an inconvenient extent, so much so that it has been found necessary to reduce the production. This does not apply to the hard coal, for which there is a very brisk demand. It has often been a subject of remark that there were so few joint-stock companies established for the working of the minerals of North Derbyshire. Some time ago a company was formed under limited liability, for the purpose of working the coal on the Whittington estate. A prospectus was issued, and a large quantity of the capital was subscribed, and the company had fair to go on. But a split in the cabinet disclosed the fact of a nice little fibbery having been planned, in order to put some of the parties in an advantageous position, which led to the breaking up of the concern. A new company has just been formed to work the coal on the estate of Sheepbridge; it is known as "The Chesterfield and Midland Colliery Company." The company propose to raise a capital of 40,000/., in 5000 shares of 5/ each. It cannot be doubted but that the district is the very best that could be selected under the circumstances. The coal is of excellent quality, and it is certain that the Dunstan and Barlow Company will become large purchasers, from the fact that their own pits are inadequate to supply the requirements for the three blast-furnaces. Another stack is building, and will require so much more fuel. The branch railway from the Dunstan and Barlow Company's works to the main line of the Midland will obviate the necessity for a large outlay of capital, and will enable them to compete with those coal masters who enjoy the advantage of a line to the pit's mouth. The charge of 6d. per ton carriage is quite ample. There are to be no free shares, and the entire capital of the company is to be applied to legitimate purposes. The coal field is sufficiently extensive to work during the time the lease will be in force. The calculations of the directors on the probable profits of the company are derived from data; and it appears certain that, should the affairs of the company be carried out with judgment and economy, a large return will be made on the capital employed.

Three informations have been laid before the proprietors, and one against a deputy in the Renishaw Colliery, by Mr. Hedley, the Government Inspector of Mines for the district. On June 10 an explosion took place, and burned a collier, and no notice was given of the accident to the Inspector. Again, when Mr. Hedley inspected the pit, on June 20, he found another heading unventilated. In consideration of Messrs. Wells's general good management, the penalty was mitigated to 40s. in each of the three cases. The deputy was fined 40s. for leaving the colliery before the men and boys left work, and neglecting to appoint a competent person in charge.

Early on Wednesday an accident occurred at Messrs. Knowles and Stott's Ringley Colliery, by which Thomas and James Atherton (brothers) were killed. Deceased, along with their father, William Atherton, were getting coal, when a large quantity of the mineral fell, and killed the two sons upon the spot, fearfully bruising their bodies.

The lead mines of the Peak are making tolerable progress, and at Eyam, Mill Dam, and several private properties there is some good work being done, but some others are not in such a favourable position. The Mill Town Company's Mine is not yet through the toadstone, and it is uncertain when they will be through it.

There is a little more enquiry for mining shares this week, but they have been confined to a few of the more successful ventures.

REPORT FROM MONMOUTH AND SOUTH WALES.

NEWPORT, CARDIFF, AND SWANSEA, SEPT. 19.—The Abercarn strike, and the violent conduct of the men, has been the chief theme of conversation for the last few days. As reported in previous numbers of the *Journal*, the Abercarn colliers have struck for an increase of 6d. per ton. They were stimulated to this unreasonable demand by the recent success of the men at Risca, which is only a few miles distant. The Abercarn Company refused to accede to the men's proposal, and hence the strike, which has now lasted for several weeks. Up to Thursday, the 12th inst., peace was preserved, and the men contented themselves with parading the narrow lanes and streets occasionally. On Thursday, however, matters changed, and the old practices of fifty years ago, which were thought to have been long buried in oblivion, were once more revived. A number of the Risca colliers came up, and they, in company with some Abercarn men, determined to make an attack on Gwillim, the foreman's house. They dressed themselves in women's clothes, carried the furniture out, and Gwillim only narrowly escaped from getting into their hands by making his way out unobserved through the back door. The police were immediately communicated with, and twelve of the principal rioters were apprehended, and brought before the magistrates on Monday. Mr. Owen appeared for the men, and they were remanded until next Monday. We understand that the company have determined to stop the pit for the present, and men are now engaged in raising the level plates.

The strike threatens to become more general, as the Abercarn colliers have just followed in the same course as their comrades at Abercarn. The Abercarn and Abercarn Collieries are the property of the same company, consequently it is quite clear that a combination has been determined upon by the men. Strikes have been the bane of the neighbourhood for years past, and it is to be hoped that the present dispute will soon be satisfactorily arranged.

William Churchill and William Evans were brought before the Pontypool magistrates, on Saturday, charged with stealing a quantity of coal, the property of the Pontypool Iron Company. The prisoner Evans was seen taking the coal from the stock, and he carried it to some distance, and then gave it to Churchill. The case was not pressed, and the defendants were discharged on payment of a fine of 10s., including costs.

On Saturday, a lamentable accident occurred on the tramroad near the Black Vein Colliery, Risca. The colliers are in the habit of riding on the trucks from one pit to the other, and a young man, named James George, availed himself of this practice on Saturday. In a slighting near the works he missed his footing, and the train of trucks passed over his body, and he was instantly killed. An inquest was held on the body at the Sugar Loaf, and a verdict of "Accidental Death" returned. On the same day a lady named Henry Harry, lost her life at the Aitken Colliery, Loughor. It appears that he was engaged in his usual avocation when a stone fell from the roof, and he was killed on the spot. A few days since, a collier, named William Jones, was severely injured at the Gellywion Pit, Pontypool, from an explosion of fire-damp. Mr. Cooke, the surgeon of the works, paid every attention to the unfortunate man, but all that medical skill could suggest proved unavailing, and he died on Saturday.

The Bettws Big Vein, near Bridgend, lately won by Mr. Cadman, has just been sold by that gentleman to a Cardiff coal merchant. The produce will be carried by the new Llynvi Valley Railway and the South Wales to the East Bute Docks, Cardiff, as well as to the Briton Ferry new docks.

PREVENTING INCrustATION OF STEAM-BOILERS—NOVEL APPLICATION OF PEAT.—The advantage of employing pure water in steam-boilers is too well known to require comment; and the processes by which it has been sought to remove impurities have been very numerous. Mr. John Cameron, of the Hematite Iron-works, Hindpool, now proposes an extremely simple method of causing vegetable acids to act upon the impurities which have usually to be contended with. He forms a tank with two divisions, that may hold from 50,000 to 60,000 gallons of water; one division being upon a lower level than the other, so that the contents of the upper division may be emptied into the lower. The upper tank is filled with water, and about 30 tons of peat is added to each 25,000 gallons of water; the peat is put in part dry and part wet, and is occasionally stirred, that every part of the water may be acted upon. It is then left at rest, and the organic compounds (humic, fulvic, humic acid, fulvic acid, crenic acid, and apocrenic acid) existing in the peat precipitate the earthy matters contained. The purified water may then be drawn off into the lower tank, and the upper tank refilled.

NEW STEAM-HAMMER.—For some months past a new working cylinder steam-hammer has been in course of erection at the iron-works belonging to Messrs. Hill and Smith, at Brierley Hill, and a number of gentlemen practically acquainted with such machinery attended to witness the mode in which it worked, and discuss its merits compared with other similar inventions. The hammer was made by Mr. Wylie, formerly of Glasgow, and now of London, and is by far the largest in the South Staffordshire district. As it will doubtless in course of time do away with the old hammer now used for shingling purposes in this district—not to mention the fact that without something like it no large forgings can be completed—it may not be uninteresting to give a brief description of its construction. The hammer is one of 5 tons weight, and designed for forgings of the largest class. The framing consists of two vertical cast-iron columns of rectangular transverse section, placed 16 ft. apart. They are bound together by a strong iron-beam, through which an opening is made for the passage of the cylinder or hammer-block. These two lower columns are surmounted by a pair of segmental frame pillars, which joined form an arch springing up to a height of 23 ft. from the ground. These semi-circular pillars are joined together at the crown by internal flanges, leaving sufficient space to receive the entablature and part of the valve gearing. The upper and lower columns are jointed to each other internally, in spigot and fance fashion, their junction flange being firmly secured by strong bolts and nuts. The upper columns are secured to the horizontal beam by massive malleable iron

stays. The vertical grilles for the cylinder traverse are fixed to the horizontal beam, and also to the arch above, provisions being made for adjusting them by means of liners. The cylinder, or hammer-block, has a stroke of 6 ft., and is cast of the strongest cold-blast iron. A small horizontal steam-cylinder is attached to the entablature, the piston-rod of which is connected to the double-beat steam and exhaust valves by a lever and link arrangement, and the attendant has merely to touch the steam-slide valve of this miniature engine to raise the hammer to its desired height. The hammer complete weighs about 80 tons. Among the company present were Mr. R. Smith (Lord Dudley's agent), Mr. Frer (Brown and Frer), Mr. Walker May (Suffolk Works, Birmingham), Mr. H. Parkes, Dudley, Mr. Netherton, Mr. Green, Dudley Bank, Mr. Thomas Webb, Stourbridge, Mr. Hunt, Congreaves, Mr. G. Smith, Dudley, Mr. Musgrave, Bolton, and the maker—Mr. Wylie. All expressed their entire satisfaction with the machinery and its working.—*Birmingham Journal*.

TREATING IRON PYRITES.—An invention has recently been patented by Mr. John Longmaid, of Inver, Galway, for treating iron pyrites and other ores containing copper, silver, and tin, or either of them, and sulphur, which consists in first crushing the ore and passing it through a sieve having about 100 holes in the square inch, and afterwards calcining it and treating with common salt. The invention appears to be a modification of, or improvements upon, the inventions of Mr. William Longmaid, patented 1842, 1844, and 1845. According to the new invention the partially calcined pyrites and salt are kept at a low red heat, until decomposition converts them into sulphate of soda and soluble chlorides of the metals. These are washed out and precipitated with iron in the usual manner.

FOREIGN MINING, AND THE NEW TARIFFS—No. VI.

Advices from Charleroi state that the prices of *fontes* and irons remain firm, and that orders are abundant. This situation of affairs is all the more satisfactory since at this period of the year business is generally stationary. As an instance of the business doing, it is stated that one large establishment has effected a transaction of 3000 tons of refined *fonte*. The construction of railway machinery and material is assuming considerable importance in the Charleroi district. A new establishment has been erected at Couillet by Messrs. Batty and Mathysen, and has several important orders for boilers and locomotives to begin with. The other establishments are equally well off for orders, and much activity is remarked in the heavy nail trade. Nothing fresh is noted in connection with minerals; prices of good hydrates are, however, well sustained. All is ready for the resumption of extraction in the Charleroi collieries on a grand scale; the agents of the various owners on circuit have been endeavouring this year, thanks to the extension of communications, to enlarge the range of their *clientèle*, to use the felicitous expression answering to the English word "connection." Works have been for some time in progress for the collieries, in consequence of the closing of the navigation towards France, have only been working four days per week. The Liège coal market remains without variation. The closing of the gates of the sluices of Avroy and of the cannon foundry, rendered necessary by the cleansing of the sewers of the town and some urgent repairs, recently stopped the despatch of coal towards Holland. The workers of the Liège basin do not seek now to run off immediately the product of their extraction, as has been the case in preceding years. At the commencement of last winter several coalowners could not meet the numerous orders which reached them, and regretted having sold their production during the summer at relatively low prices; hence the change of tactics. The demand for *fonte* is quiet, and prices do not rise, notwithstanding the great activity which prevails in connection with the fabrication of iron. The great production of the blast-furnaces of the province, which at other periods flowed away to some extent to Germany, remains in the district, and prevents a rise in *fonte* as well as irons. The workshops of the province are at present in a prosperous state. Work is not wanted for the moment, but fresh orders are rather anxiously looked for, in order to maintain the same activity during the approaching winter. A slight rise is reported in rough zinces at Liège, but copper is falling. There are rumours of the establishment of new rolling works both in the Charleroi and Liège districts; in the meantime the owners of blast-furnaces at Liège have been endeavouring to run off at Charleroi a portion of their large stock of *fonte* which has resulted from the loss of the German market. The improved feeling in copper has been sustained on the Paris market, and although the rise has not yet been freely decided, still holders maintain their prices. But little animation has prevailed in tin; nevertheless the reduction which English tin has undergone has not exercised any influence on the Dutch market, where prices have been sustained. Lead is not much sought after, the principal outlet, America, being closed. Prices have undergone very slight variation, in consequence of the little activity which prevails in the principal markets. Zinc has readily sustained former values; the demand continues to be very active, and prices are generally tending upward.

The French company which has a concession of the copper mines of Huelva, in Spain, has, after a long and careful deliberation on the part of the Spanish Government, received further powers to construct a railway 274 miles in length from its mine at Tharsis to the port of Huelva. In order to execute the work, the management has been authorised by the shareholders to contract a loan of 144,000/., and a third of this capital is being at once realised by an issue of obligations, in order that the least expensive portion of the line may be immediately executed. The company, which has been six years in existence, owns mines of pyrites at Tharsis and Cabanas, which are reckoned amongst the richest of the province of Huelva, in Andalusia, and has collected around its works a considerable working population, not existing previously in that part of the country. Established with a capital of 240,000/., of which about 171,000/., has been called up, the company aims at the extraction and sale of a mineral composed of sulphur and copper, a part of which is handled upon the spot, in order to be converted into metal, while the remainder is exported to England, where it finds an assured sale among makers of sulphuric acid and copper founders. As a proof of the importance of the trade thus done, it may be stated that the sum paid by the company for the transport of mineral to the point of embarkation amounted between Jan. 1, 1857, and June 30, 1861, to more than 144,000/.. Independently of a great number of galleries in full development, the mine at Tharsis possesses an open working which now presents a compact mass of minerals representing more than 140,000 tons, while even this large total is only a small portion of what remains for extraction. The annual consumption of pyrites in England being very considerable, while the product of the mine at Tharsis could easily be quintupled, the construction of the railway indicated above has become a pressing necessity.

M. Thoma, a director of ironworks in Hungary, has been providing for the separation of the three metallurgical operations involved in the production of *fonte*—the reduction, carburation, and fusion of the ironstone, which is effected at present in a single blast-furnace—into three distinct processes, conducting each in a special apparatus. M. Thoma has been guided by the idea that when the transitory processes are conducted in a single furnace the situation and nature of any irregularity cannot be immediately perceived, and the work becomes much more difficult than if each operation were effected separately. The new method requires three distinct operations:—1. Calcination of the mineral, and breaking it when it is in large pieces.—2. Carburation of the calcined mineral.—3. Fusion of the mineral. A distinction is drawn between heavy mineral and mineral dust, the construction of the apparatus differing in each case. The calcination of the pieces of minerals is effected in a furnace by means of a flame of gas produced from peat, lignites, or other combustible. Care is taken to cleanse the gas arising from combustible rich in sulphur, which exerts an injurious influence on the mineral. The furnace is charged from above, as are other calcining furnaces, and the product is afterwards extracted by two openings below. The daily product of a furnace is from 200 to 250 metrical quintals of perfectly calcined mineral, and from 50 to 60 quintals of combustible suffice, in the majority of cases, to accomplish this result, giving a very low value as the return price of the mineral. The calcined mineral is drawn out while it is still red hot, because it cracks, displays small longitudinal fissures, and is then easy to break. The breaking is effected by hammers, moved by water-power, and the mineral is reduced to pieces of a size of 5 or 6 cubic centimetres (a centimetre is 0.39 inch English). The carburation of calcined and broken mineral takes place in a furnace of masonry of peculiar construction, in which the mineral descends into the midst of a current of warm ascending gas, which acts as a reductant; the mineral being cooled again before coming into contact with atmospheric air, in order to avoid all oxidation. The reducing gases, cleared of all sulphur which they may contain, are obtained from peat or lignites. Only sufficient air is introduced to carry to an intense red heat the parts not transformed into carbonic acid, all the success of the operation depending on the temperature of the gas. The reduction and carburation of the minerals in the apparatus of M. Thoma is the same as in an ordinary blast-furnace, only the processes take place with less expense for high-priced combustible, and with an economy which M. Thoma contends cannot be attained by any other method, while the combustible employed is utilized under its best form. There is no contact between it and the mineral, and consequently the latter cannot be defiled

or deteriorated. Further, it is claimed for M. Thoma's apparatus that in its use all the "reactions" utilized in a blast-furnace are obtained under the best conditions. Each carburation furnace furnishes every day from 75 to 100 metrical quintals of carbured mineral, and its consumption of lignites amounts to more than 40 quintals every 24 hours, so that each quintal (a metrical quintal is about 230 lbs. English) requires some 54 to 58 kilogrammes (a kilogramme is rather more than 2 lbs. 3 ozs. English) of combustible; with peat of ordinary quality the expenditure is at the rate of 2 to 2.33 hectolitres per quintal of mineral. After the operation has been effected, the product is free from silica, the iron being reduced and carbured without having been exposed to a temperature to which silica could reduce it, and the sulphur has been entirely expelled by a desulphurising calcination with the steam of water. Phosphorus not making part of the minerals treated by M. Thoma, nothing is known precisely on that head, but it is, nevertheless, considered that the new process is as proper for separating phosphorus from iron as the method employed in an ordinary blast-furnace. Manganese, again, could not combine with iron at the temperature which prevails in the carburation furnace; it must remain in the earthy mixtures of the mineral, enter then into the combination of a dross easily fusible, and contribute to the greatest part of the product. The wind necessary for putting the furnace into activity is furnished by a simple ventilator, or fan, four horses being sufficient to work two fires. As regards the preparation of pulverised or dusty mineral, the double processes of calcination and carburation are effected in a reverberatory furnace, having two flat bottoms, placed one over the other, the calcination taking place on one, and the carburation on the other. The furnace is charged by means of apparatus placed in the vault or arch, and the mineral is extracted by doors in the side walls. The mineral is spread to a height of 15 or 16 centimetres, or more, on the calcining floor, or flat, and it is cleared away after being heated for two hours. It is then mixed with a coaly substance, in such proportions that the carbon of the matter can reduce and carbure the iron of the mineral. The coaly matter which seems to give the best results is the upper crust raised from the surface of turf-pits, as it does not sensibly differ from the primitive lignous fibre, and does not contain either sulphur or phosphorus. The mineral is left on the carburation floor two or three hours. The daily return of a furnace is about 30 metrical quintals; when gas from lignite is used the consumption amounts to 22 quintals of that combustible, or about 66 kilogrammes per quintal of carbured mineral; with peat the consumption is about 33 hectogrammes. As regards the fusion of the carbured minerals, the important point in the operation is a good formation of beds of fusion, and the dross should be as fluid as possible. M. Thoma recommends the following combinations:—

Silica.	Lime.	Alumina.	Total.
50	30	14	100
50	31	19	100
40	38	22	100
28	45	27	100

The fusion fire is only a blast-furnace of ordinary dimensions, with boshes making an angle of 60° or 70°, and a cuve or tubing 3½ to 4 metres (12 or 13 ft. English) in height. The furnace possesses five tuyeres (the conical orifices through which the blast is imparted), which render its action very regular, and diminish the expense of combustible. M. Thoma believes that he could utilize to his method old-fashioned blast-furnaces worked with charcoal, or the more modern ones in which coke is employed; in order to transform the latter for fusion purposes it would be necessary to strain the lower part. The fusion can be effected with charcoal, coke, or purified turf or peat; and recourse can also be had to anthracite, especially when it is desired to produce cast pig by hot-blast. The expenditure of combustible in the fusion is from 30 to 40 kilogrammes per metrical quintal. The blast is effected as in an ordinary blast-furnace, but the fire begins to operate almost immediately. The lime used is introduced as quicklime. The gases from the furnace top or mouth can be, besides, utilized for the calcination of the mineral, and employed in the carburation furnace, heating the wind proceeding from the blast-pipes, &c. M. Thoma recommends for the blowing apparatus the plunging-piston of M. Furiet, which does not require for its operation a motor exceeding five-horse power. With such a force as this a double-cylinder apparatus can be worked, making 25 strokes per minute, and throwing into the furnace 20 to 25 cubic metres of wind per minute, at a pressure of 6 to 7 centimetres of water. The advantages claimed for M. Thoma's method—to "generalize," as our Yankee friends (may they speedily shake-down peacefully again) would say—are greater expedition, greater facility of correcting any irregularities which may arise, furnaces which can be blown in and out in less time, blowing apparatus smaller and less expensive than those used in old-fashioned furnaces, and the adoption of combustibles, such as lignites and peat, which are at present almost unused in metallurgy, while the quality of the product does not in any way suffer. These are all objects of great importance, and if they are attained metallurgical industry will be much indebted to M. Thoma.

THE SALT TRADE OF AMERICA.—The quantity of salt manufactured in the United States in 1859

promising of many of the young mines which are quietly working on, and tending to raise Flintshire to the position which it formerly occupied and pre-eminently deserves as a lead mining county.

MINING IN SCOTLAND.—We rejoice to find this branch of native industry is showing such animation in the "north country." A reference to our table of Swansea Ticketings will show a goodly array of figures from the Lochwinnoch Consols Mine and the West Kain, the former, as stated last week, commencing operations in January of this year; the latter only in July last. These sales are not merely ephemeral, as we are informed the first-named mine has other large parcels in transit and on the mine, which will be followed up in regular succession. The junior mine, too, has its returns on the way in monthly parcels, which will be regularly sustained. These mines have done much to foster a kindly feeling towards mine adventure in the city of Glasgow, where, we understand, no less than three new companies are in course of formation, one of which, with a capital of 1000 shares of 5s. each, was all subscribed in one day without a single advertisement being issued; the others, though not so rapidly completed, are in excellent odour with the public. We expect ere long to have to report regularly of the Scotch as of the Welsh, Irish, or Cornish mines. We are truly glad to see capitalists are turning their thoughts and attentions to our home productions, instead of foreign countries, where the caprice of a nation, or the will of a potentate, may in a moment jeopardise their property, or injure them past remedy or appeal. We doubt not as exploration is made, and example set, very many hitherto neglected or untried sources of wealth will be developed, to the great benefit of the country at large, and of the immediate localities in particular; this has been the case to a remarkable extent in the village near the mines alluded to above, where the population and trade has evidenced a decided increase and marked change. The railway also has felt considerable difference in the traffic to this secluded hamlet, visitors almost daily coming on business or examination of the mines, besides the transmission of ores and materials, which, of course, will increase as the mines can be opened up. The West Kain is a private company of only eight gentlemen, but the Lochwinnoch is divided into 256 shares, under the Limited Liability Act. The shares are well held, and in demand, a few transactions have taken place at high premiums on the original cost of 5s. per share; these, of course, act as inducements to follow. We trust all will be successful—we would fain hope it, but our experience proves these are blanks as well as prizes in the lottery of mining as well as in the lottery of life itself, and we would implore the young adventurer not to be out of heart or repine if his first attempts do not turn out equal to his ardent anticipations; we beg him to remember the excitement attendant on young mining adventure is extremely fascinating—it requires experience, caution, and perseverance to be successful in this business, perhaps more particularly than any branch of British industry, and when these elements are brought to bear success is all but certain.

THE SILVER VEIN MINING COMPANY.

Annexed is a circular which has been issued by the directors of the Silver Vein Mining Company, from which it will be seen that the company is in a position at length to make regular sales of silver ores. It appears that the intrinsic value of the silver and copper contained in the average of the ores is equal to about 16s. per ton, a price with which both directors and shareholders should be well satisfied, and which, with a judicious outlay of the capital of the company, ought to be made to yield exceedingly large returns—even larger than usually falls to the lot of mining enterprises. The circular takes as the basis of its figures 50 tons per month, and even at that, and the low net price of 8s. 12s. 6d. per ton, brings out a yearly profit equal to about 50 per cent. upon the paid-up capital. It must likewise be remembered that this mine is worked only to a depth of 12 fms., and the richer ores have been found at the lowest point; that there are only five small furnaces yet erected, which, if we are correctly informed, have only been partially used; that until the mine was actually proved the directors would not permit the outlay for adequate crushing power, but have been compelled to employ hand labour only. There is necessarily every reason to hope for, and expect, even much larger results. We know that there remains intact, uncalled up, 15s. per share of the capital, no call whatever, we believe, having as yet been made. Now, we cannot but ask the question—Can there be any reason why some at least of the remainder of the capital should not be made available for the further development of this interesting mine? And the only answer we can find is, that now the whole affair is placed beyond a doubt as regards the commercial profit to be obtained by its working, the directors would not only be justified, but are really bound, to use all the means at their disposal to bring out, as speedily as possible, the full capabilities of the mine and works. Economy and a care not to spend their capital was praiseworthy, so long as a doubt could possibly have been entertained; but now that there can be no delay or hesitation must be attributable to timidity or weakness, and it is to be hoped that neither exists in the councils of this undertaking. It appears perfectly within compass that in two years from this time, instead of 50 tons per month, 200 tons ought to be sold regularly, which, according to the very modest figures of the circular, would give cent. per cent. per annum.

There is another most important question to be determined—Whether the company ought to erect their own refinery? The value of the ores is stated to be about 16s., but the sale has been for net 8s. 12s., consequently the refiners' charges and profit is 7s. 8s. per ton. Now, it is quite clear that the profit out of this 7s. 8s. must equal 5s., taking the profit charge of smelting, &c., at the heavy sum of 2s. 8s. per ton. This profit alone, on even 50 tons per month, would be 3000/- per annum, and on the quantity we have indicated above—200 tons per month—would amount to 12,000/- per annum, or something like another cent. per cent. upon the capital. Can anyone in the face of these figures doubt as to the course which ought, and we hope will, be energetically pursued?

The circular, dated September 19, is as follows:—

"The directors are now in a position to speak with more certainty as to the price which will be realised from the ores. The first 30 tons sampled are proved to contain 54 ozs. 5 dwt. of fine silver, and 2-56 per cent. of copper to the ton of ore. This is worth about 16s. per ton. The highest offer made by the smelters is 8s. 12s. per ton, thus returning charges and smelters' profit are taken at about 8s. per ton. This appears very high indeed, and it will be a question which the directors will submit to the shareholders at a meeting to be called so soon as the next 20 tons are sold, whether a small refinery should not be erected, so that the company may become their own smelters, by which a considerable saving may be effected. This result is cause for congratulation, as much as with even an average price of so low as 8s. 12s. per ton, a large profit may be obtained. Thus say only—

"Fifty tons per month, at 8s. 12s., would give..... £430 0 0

"The expenses of which would not exceed 3s. per ton, and much less when the necessary crushing power is erected

Leaving a nett profit of..... £280 0 0

Or 320/- per annum on a capital of 7425/-, and from only 50 tons per month.

The second sampling, above referred to, is expected to take place in about a fortnight from the present time."

NORTH GREAT WORK MINE.

On Sept. 10, 11, and 12, a deputation from the committee, appointed on Aug. 20, together with the secretary, visited the mine, made a thorough inspection both underground and at surface, and the following is a compact report of their observations:—

TO THE SHAREHOLDERS:—We find the mine situated in the parishes of Breage and Germoe, near Helston, Cornwall, and is surrounded by the following mines:—On the east by the Old Godolpion Mines; on the west by Halemann and Croft Gotth; on the north by Wheal Gilbert; and on the south by Great Work Mine; all of which mines, from their well-known productiveness, need little remark. The set is very extensive, being 1½ miles in length by one mile in width, containing five discovered east and west lodes, crossed at the centre of the set by a north and south lode, upon which Wheal Gilbert was productively worked on the one side, and about which very large returns were made in Great Work on the other side. This lode has been worked on the back by the old timmers through the entire length of the present company's grant to a depth of from 10 to 12 fms. It is anticipated by the manager and other practical miners who have inspected the mine that large deposits of tin will be found in connection with the junction of this lode with the east and west lodes before named. The mine to a depth of 45 fms. from surface is drained by an adit level commenced in the valley, and driven upwards of a mile in length, and underneath our present workings. The operations of the present company have been confined to the development of two lodes, named respectively the North lode and the South lode.—North Lode: The deepest point to which this lode has been worked is by the deep adit level, and it has also been explored for a considerable length by the shallow adit level, but the discoveries of tin made have not as yet yielded any very important results, although there is no doubt, judging from the appearance and size of the lode at the depth at present attained, that it will be equally as productive as the south lode a few fathoms deeper. The object of continuing the driving of the shallow adit level on the course of this lode is to arrive at the junction of the above-named cross lode. This point will be reached in the course of four months, and will so lay open and drain the ground to a depth of 30 fms., as to enable the company to explore the lode below the workings of the old timmers, in the bottom of which it is reported good courses of tin were left when the men were stopped by the influx of water. The shafts, levels, &c., on this lode are all in good order, both for ventilation and vigorous working.—South Lode: From this lode nearly the whole of the tin sold by the present company has been raised. The deepest level driving is the 10 below the deep adit, or 55 fms. from surface. In driving the shallow adit a small deposit of tin was found; underneath this, in the deep adit, a course of the for about 16 fms. in length was laid open, from which about 15000/- worth of tin has been sold. The 10 is now being driven to under this body of tin; and although the point is not reached by upwards of 25 fms., we have much pleasure in being able to state that the present end is producing tin to the value of 20/- per fathom. Should this continue to the point under which the lode was so productive in the level above, a rich and profitable mine will be at once laid open. The appearance and nature of the ground in the 10 end are exactly similar to those presented in connection with the tin raised above. A secure and good shaft is sunk from surface to within 5 fms. of the 10 fm. level, and about 10 fms. ahead of the present end, being in the best position possible for the economical and effectual working of the tin ground. A further depth of 10 fms. below the 10 fm. level can be obtained, as the manager informs us, without the aid of steam-power. The different shafts, levels, &c., on this lode are in perfect working order, and suitable for all required purposes. There are extensive buildings on the mine, erected by the present company, consisting of smithy, storehouse, large counting-house, sampling-room, &c.; and the approaches to the mine, although requiring considerable outlay, have been properly constructed. On the dressing-rooms all materials necessary for returning the tin to market are provided, and tin to the value of about 80/-, and about 2 tons of good quality copper ore, are now on the mine. Judging from the position of the mine, being in the centre of the richest tin district in Cornwall, the productiveness of the lodes already discovered, and

the general features of the ground, we are led confidently to believe that a rich and lasting mine will be the result of a continuation of the present mode of working. From the very satisfactory manner in which we found everything conducted in connection with the mine, and the lucid explanations rendered by the manager (Capt. Joseph Vivian) and John Pope, the underground agent, we are convinced that the local management is in most able and trustworthy hands. In conclusion, we congratulate the shareholders on the present and future prospects of the mine, which, as we have endeavoured to explain, appears to us to be an exceedingly valuable property.

TIMOTHY HUGHES, MARK BRETT, T. E. W. THOMAS.

TRUTH'S ECHOES; OR SAYINGS AND DOINGS IN MINING.

The Mining Share Market has been active all the week, and a considerable amount of business transacted. The settlement of shares dealt in for the "account" took place on Monday, which passed off with the usual deficiency of East Caradon shares.

Transactions have taken place in SOUTH FRANCIS and EAST BASSET shares at improved rates.—COPPER HILL, WHEAL SETON, WHEAL BASSET, and WEST SETON shares have also changed hands.—STRAIT PARK shares are a little firmer, and fair business doing.

—EAST CARN BREA shares are in good request, and very scarce; the price has, consequently, considerably advanced, and the mine is reported to have improved very much.—COOK'S KITCHEN shares continue in the same.

—NORTH DOWNS shares, which were in good demand during the latter part of last week, and form the early portion of the present, have experienced a considerable decline, arising from a reported falling-off in the mine.—NEW TRELLIGH and NORTH TRESCREBBY shares have been in request at Monday, which passed off with the usual deficiency of East Caradon shares.

—GREAT RETTALLACK, EAST GRENVILLE, and UNITY shares have been in demand, and several bargains effected.

—GREAT WHEAL MARTHA shares have been largely dealt in during the week, but at lower rates.

The decline has been attributed to the circulation of a paragraph, having to do with the proposal to increase the number of shares from 15,000 to 20,000, for the purpose of raising additional capital, is positively denied by the board of directors, and has not the slightest foundation in truth; it is presumed to emanate from parties interested in depressing the price of shares, to cover their "bearing" propensities. Whether such be the case or not, it behoves the executive to exercise the most stringent measures in ascertaining the correctness of the reported misrepresentations, as well as placing before the public an authenticated statement of accounts, as some satisfaction to those who have purchased at the recent advanced price, as well as to such who are alarmed at the depression of their property. This appears to be an urgent duty of the administrative, who hold their trust for the security and benefit of shareholders generally.—SOUTH CARADON shares have been sought for.—WEST CARADON shares have improved very much, and several transactions taken place.—EAST CARADON shares have been in good demand, especially for the settlement on Monday, when found rather scarce; they have since improved and receded, according to the caprice of the market, but have left off firm.

—MARKY VALLEY shares have not been quite so firm, there being more sellers at the present time.—LUDCOTT shares have been in good request at improved rates.—HEARDFOOT and MARY ANN shares are firmer, and several transactions taken place at improved rates.—TRELLAWNY shares are more in request at low rates.—WHEAL WREY CONSOLS shares have been rather largely dealt in at lower prices than quoted.—WHEAL ARTHUR shares have considerably advanced, and a large number have changed hands during the week, consequent on the improved prospects of the mine.—WHEAL EDWARD shares are more in request; and from the generally improved prospects of the mine are likely to have a good advance.—HINTON DOWNS shares are firm, and bid fair to maintain the improvement.—DRAKE WALLS and KELLY BRAY shares, although not very active, are being enquired for at minimum quotations.—WHEAL GRYLLS shares have been in good demand, and a large number changed hands at advanced rates, even in the face of an expected fall of 1/- (made on Wednesday).—WENDRON CONSOLS, GREAT WHEEL FORTUNE, and DING DONG shares have been sought for at improved prices.—MARGARET, PROVIDENCE, and EAST PROVIDENCE shares have been in demand all the week at buyers' prices.—WHEAL HEARLE shares have been in request at improved rates, and a large number changed hands.—OLD TOLGS shares are sought for, from the more favourable prospects at the mine.

At EAST CARADON, the 60 west, on the counter, is not quite so good as reported last week, being now worth 25/- per fm., and looking well for improvement; but the western end continues to look well, and is worth upwards of 25/- per fm. About 25 fms. behind the western end a change took place, and the lode was at that point calculated by the breadth carried, but a branch is found to have gone off, and is now being taken down, and worth full 15/- per fm., and still improving. This is an important addition to the western ground. The 50 east is worth full 30/- per fm., and looks well for further improvement. The parcel sold at Truro on Thursday realised 2259/- 2s. 6d., which will leave a profit for the month of nearly 1600/-—CRADDOCK Moor and GONAMENA meetings are called for the 26th, when a dividend of 5s. may be expected in the former and a call of 2s. 6d. in the latter.—SONTRIDGE CONSOLS is represented to have improved a little in the 40 east, on the south part of the main lode, where it is worth 3 tons of good ore per fm.: the other places continue just the same.—LADY BERTHA has presented no alteration for some time past; the 40 east is looking to improve, and the same level west is producing a fair quantity of coarse ore, but at the present time it is looking less encouraging.—At WHEAL MARTHA the prospects continue of the same character as officially reported. The shaft is now down 12 fms. below the 40, at which point the next level is to commence, preparatory to which they will have to sink for the necessary work. The lode in the 20 is producing excellent work, which point is over the 40 where most productive, and is whole ground, from whence large quantities will be taken away at a low cost. They purpose sampling above 300 tons on the 27th, which is estimated to produce full 1200/-, and they have on the floors and broken underground above 2000/- worth of copper ore.

HAWKMOOR is reported to be in fork, but no change has taken place. The lode in the back of the 25 is still worth 3 tons per fathom.—At WHEAL EDWARD the prospects continue highly encouraging, and there is very little doubt but this mine will in a few months become a very profitable one. Large quantities of ore ground are being laid open, but it will require a little time to render the mine what it is fully expected to be—a permanent paying one.—OKEL TOR continues to hold out much promise. The lode in the 80 and also in the back is worth 3 tons of ore per fathom, respectively. The stope in the back of the 65 are worth 10 tons per fathom, and in the bottom of the 60 they are yielding 12 fms. per fathom. The ore is of low produce, but likely to improve in quality as they go deeper.—EAST GUNNIS LAKE and SOUTH BEDFORD is represented as looking remarkably well. The 36 east, at South Bedford, is going through a fine course of ore, filling full 5 tons per fathom. Gard's shaft is going down on a very promising lode, which is likely to become highly productive.

HINTON DOWNS is looking more promising, and in some places the ground is easier. Excellent ore ground is opening out. The 58 west is reported worth 70/- per fathom; and the 100 and 110 are improved, the former worth 20/- per fathom, and the latter producing good stones of ore.

At KELLY BRAY they are looking more promising in the eastern part of the mine, where they have two or three places yielding fair quantities of ore; and there are other promising points to which attention is being directed, as good results are anticipated.

At NORTH WHEAL JANE the prospects continue highly encouraging; and should the lode in the 12 east hold down there is no doubt it will become a permanent and paying mine; the lode in that level continues valuable, and worth 100/- per fathom.

WHEAL ANNE: Allen's lode, in both levels, is producing good work for tin, and looks well, not only to continue but improve. At Nine Stones the lode is opening up remarkably well. The 36 east, at South Bedford, is going through a fine course of ore, filling full 5 tons per fathom. Gard's shaft is going down on a very promising lode, which is likely to become highly productive.

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ZAMORA TIN MINING COMPANY (LIMITED).
See prospectus in the *Times* of 13th September, 1861.
Notice is hereby given, that NO APPLICATIONS FOR SHARES will be RECEIVED after WEDNESDAY, the 26th inst.

HENRY HAYMEN, Chairman
JOHN E. DAWSON, Sec.

Temporary Offices, 9, Broad-street-buildings, City.

THE CENTRAL SNAILBEACH MINING COMPANY (LIMITED).

Capital £10,000, in 10,000 shares of £1 each.

Deposit, 2s. 6d. per share, payable at Messrs. Rocke and Co.'s, bankers, Shrewsbury, upon application, which will be returned if no allotment be made to the applicant.

Projected to work most valuable veins of lead ore under Hogstow Hall Farm, in extent 295 acres, actually adjoining the western boundary of the renowned Snailbeach Lead Mine, two miles from Ministry Railway station, Shropshire.

For detailed prospectus, see *Mining Journal* of July 27, p. 470, and of 3d Aug., p. 502; and for a copy of Messrs. Phillips and Darlington's report, since which the strong vein in this sett has been identified by Messrs. John Evans and David Davies, two of the present resident Snailbeach agents, as none other than the main lode of their celebrated mine, see *Mining Journal* of 24th August.

The promoters desire the strictest investigation.

Prospectuses, copies of the reports, &c., can be had from Messrs. PHILLIPS and DARLINGTON, 26, Gresham-street, London, who will afford every information; or from the undersigned, to whom all applications for the remaining shares are to be promptly made.

SAM. HARLEY KOUGH,

Shrewsbury and Church Street, Solicitor to the Promoters.

THE CHESTERFIELD AND MIDLAND SILKSTONE COLLIERY COMPANY (LIMITED).

Capital £40,000, in 8000 shares of £5 each (with power to increase).

DIRECTORS.

J. SAY SPARKES, Esq., H.E.I.C.S., Brunswick Villas, St. John's Wood, London, W.
WILLIAM MITCHELL, Esq., 54, Gracechurch-street, London, E.C.

HENRY BROWN RIGG, Esq., 33, Lime-street, London, E.C.

GEORGE BROCKLEBANK, Esq., Gloucester-place, Greenwich.

GEORGE SENIOR, Esq., Colowner, Barnsley.

Major CHARLES SANDERS, The Ingrams, Thirk.

(With power to add to their number.)

MANAGING DIRECTOR—John Say Sparkes, Esq., H.E.I.C.S.

BANKERS—London and County Joint Stock, Lombard-street, London, E.C.

SOLICITORS—Messrs. Courtney and Croome, 9, Gracechurch-street, London, E.C.

BROKER—Charles W. Marten, Esq., 26, Throgmorton-street, London, E.C.

CONSULTING COLLIERY ENGINEERS—Messrs. Brown and Jeffcock, Sheffield and Barnsley.

SECRETARY AND ENGINEER—James Wright, Esq., C.E.

OFFICES—LONDON, 42, BRIDGE STREET, BLACKFRIARS.

PROSPECTUS.

This company is incorporated for the purpose of establishing a colliery, and raising the well-known Silkstone coal upon the estates of the Dukes of Devonshire and Rutland, at Sheepbridge, in the vicinity of Chesterfield.

The moderate depth of this bed of coal, which can be reached and worked in about four months, the very small cost at which it can be raised, the first-rate quality of the coal always commanding the highest prices, and its contiguity to the Midland Railway, render this field one of the most valuable coal properties in England.

The existence of the coal, and the cheap rate at which it can be obtained, as proved by borings and shafts already sunk both in and around the field, entirely remove this undertaking from anything like risk or speculation, and thus afford an opportunity seldom met with for moderate capitalists to invest in one of the most profitable and important productions in the kingdom.

From accurate surveys made by the most eminent mineral engineers, the directors can with confidence predict that the returns upon the capital will, at the very least, be 21 per cent., while the facilities for winning the coal are such as to render it almost a certainty that dividends will be paid within twelve months from the commencement of the works.

The coal is the Silkstone, well known as the best suited for domestic use, and for which the demand both in the locality of the works, as well as in London, is almost unlimited, and at the highest prices.

The shafts will be sunk in proximity with the Midland Railway, communicating and having extensive sidings therewith, thus enabling the company to forward the coal by rail from the pit's mouth to any town or port in the country.

The coal field comprises about 600 acres, and is estimated to contain nearly 4,000,000 tons of coal. The lease is for a term of 36 years, and held at a very moderate rental of £210 per acre, of which a minimum of about 17 acres per year must be removed; hence the company has no sum to pay as a bonus for the lease, as is usually the case; and no portion of the capital will be applied to any purpose, save the construction of the works, and the prosecution of the business of the company.

The lessors have also bound themselves to construct and keep in repair for a moderate sum the branch line of rail to join the pits with the Midland Railway, and to provide all the requisite sidings thereto; also to convey thither all the company's coal at a fixed charge of £6. per ton forage.

It is a well-known fact, that some collieries when the engineering operations are scientifically conducted, from 800 to 1000 tons per day are continuously raised. The arrangements of the proposed company will easily produce that quantity; but taking the low daily average of 700 tons, and estimating 290 working days, there would be raised 200,000 tons annually.

In order, however, to be from any exaggeration, the calculations of profit have been based upon 175,000 tons only. From the reports given by different mineral surveyors, some of which are appended hereto, and taking the highest of their estimates, it will be seen that the coal can be raised and put into the railway wagons at a cost not exceeding £4. 6d. per ton (including all royalties, expense of management, and a fair allowance for the redemption of capital expended in opening the colliery). After deducting these from the lowest prices now ruling in the neighbourhood, there is left a clear average profit of £1. per ton, or an annual income of £8750, being upwards of 22 per cent. on the total capital of £40,000, even should the whole be required.

It should also be observed that the foregoing estimates do not include the profit to be derived from coking the refuse coal, or taking advantage of any more favourable market than can be commanded at the pit's mouth, although the directors feel great confidence that from the facilities they will possess of supplying the London, Sheffield, and French markets much greater profits will be realised.

Although the directors have fixed the capital nominally at £40,000, it is almost certain that little over two-thirds of that amount will ever be required; hence it is thought probable that the total calls on each share will not exceed £3. 10s. at most; and these will be asked for in 10s. per share on application, £1 on allotment, and the remainder in calls of £1 each as required; and in no case will the calls be at less intervals than three months.

A considerable amount of the capital being already subscribed, as soon as the directors think the requisite number of shares applied for, they will commence the works; at the same time, unless at least one half of the capital be subscribed, all deposits will be returned in full.

The company being completely registered with limited liability, no shareholder can, under any circumstances, be made responsible for a greater amount than that unpaid upon the shares for which he subscribes. No payment, either in shares or money, will be given to the projectors for promoting the company.

Application for the remaining shares to be made in the annexed form, to the bankers, brokers, or at the company's office, 42, Bridge-street, Blackfriars, London, E.C.

Extract from the Report furnished by the eminent Colliery Engineers, Messrs. Brown and Jeffcock, of Sheffield and Barnsley, who have under their superintendence the principal large collieries in South Yorkshire.

GENTLEMEN.—Having carefully examined the estate, and made a very full investigation of the nature of the project, we are enabled to report that in our opinion a very favourable opportunity is presented of opening out a large and profitable colliery. Without going fully into details, which we can give, if desired, upon a future occasion, we beg to state that the seam of coal is the Silkstone, or Black shale, so well known in the London market; and there is every reason to believe it will be found of good quality. The thickness, as proved by boring near the site which will be the best for the winning, is 5 feet. We estimate the cost of opening the colliery here at £12,000, in case there is not a large quantity of water met with (and which we do not apprehend); should, however, much water be found, it will necessitate the employment of a larger engine and pumps, and, perhaps, entail an additional cost of £2000 or £3000. The above estimates are exclusive of the cost of constructing the railway and sidings, and of erecting coke ovens, if found desirable to do so. The quantity of coal to be raised should not be less than from 100,000 to 150,000 tons per annum, and we estimate the cost of working, inclusive of interest upon capital, at £4. 6d. per ton. We have made enquiries as to the sale price of the coal at the Midland Railway sidings, and we have ascertained that the average price will not be less than £5. 6d. per ton, thus leaving the profit at least £1. per ton, which upon 150,000 tons would be £7500, or 40% per cent., upon an outlay of £18,000. This is supposing the coal to be sold; but the small coal would probably be more advantageously made into coke. The cost of erecting 100 coke ovens, with apparatus for washing the small coal, would be from £3000 to £4000; this outlay would, no doubt, be compensated for by the increased price obtained for the coke beyond the value of the small coal from which it would be made.

BROWN AND JEFFCOCK, Civil and Mining Engineers.

To the Directors of the Chesterfield and Midland Colliery Company.

Extract from the Report of THOMAS HARRISON, Esq., Colliery Engineer, Barnsley (a gentleman largely connected with the Yorkshire Collieries).

GENTLEMEN.—The field consists of about 600 acres; the coal is at a moderate depth, and of first-rate quality; the price, £210, is a fair one, and the vicinity to the Midland Railway are advantages which, in my opinion, render it one of the most desirable and valuable in the county, and one which will yield very large returns, if proper capital and management be applied. My estimate of the costs is as follows:—

Sinking three pits, with engine, machinery, and all necessary buildings, appliances, plant, and stock £3920 0 0

Cost of railway to pits 3500 0 0

One hundred coke ovens, at £25 each 2500 0 0

£16,000.

The above plant will be sufficient to raise at least 150,000 tons annually. I estimate the cost of obtaining the coal, including all labour, agency, interest, depreciation of capital, and royalty, at £4. 6d. per ton.

150,000 tons at £5. 7d. (the average selling price), if coke be made of £41,875 0 0

the small coal 31,875 0 0

Deduct cost of obtaining same, at £4. 6d. 31,875 0 0

Leaving a profit of £10,000 0 0

Or above 66 per cent. of the capital used.

THOMAS HARRISON.

FORM OF APPLICATION FOR SHARES.

To the Directors of the Chesterfield and Midland Silkstone Colliery Company (Limited).

GENTLEMEN.—I hereby request you to allot me shares in the above company; and I hereby agree to accept such shares, or any less number that you may be pleased to allot me, subject to the company's Articles of Association.

Dated this day of , 1861.

Name

Address

NICKEL AND COBALT REFINING, AND GERMAN SILVER WORKS, 16, OOZELL STREET NORTH, BIRMINGHAM.

STEPHEN BARKER begs to inform the Trade that he has the following articles for sale:—

REFINED METALLIC NICKEL. OXIDE OF COBALT. WIRE, &c.

REFINED METALLIC BISMUTH. GERMAN SILVER—IN INGOTS, SHEET NICKEL AND COBALT ORES PURCHASED.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

In the Causes of STEPHENS v. SAMUEL AND ANOTHER.

SAME v. PENALUNA AND ANOTHER.

IN RE SOUTH PROVIDENCE MINE.

TO BE SOLD, pursuant to two several Orders made in the above-mentioned Causes, and dated respectively the 8th and 23d days of February last, BY PUBLIC AUCTION, at the Registrar's office, Truro, on Wednesday, the 25th day of September inst., at Twelve o'clock at noon precisely—

5 (1004th) SHARES of the defendant Alfred Samuel.

6 (1004th) SHARES of the defendant Henry Weeks.

9 (1004th) SHARES of the defendant Adolphus Jenkins Penaluna; and

10 (1004th) SHARES standing in the name of the defendant Mary Penaluna.

Of and in the said MINE. JOSEPH ROBERTS, Truro

(For Messrs. Rogers and Son, Plaintiff's Solicitors, Helston).

Dated Registrar's Office, Truro, September 11, 1861.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

In the Cause of PAINTER v. CHAPMAN AND OTHERS.

IN RE GREAT WHEAL ALFRED MINE.

TO BE SOLD, pursuant to two several Orders made in the above-mentioned Cause, and dated respectively the 18th day of May and the 1st day of July last, BY PUBLIC AUCTION, at the Registrar's office, Truro, on Wednesday, the 25th day of September inst., at Twelve o'clock at noon precisely—

20 (5120th) SHARES of the defendant Richard Chapman; and

20 (5120th) SHARES of the defendant Thomas Torkington.

Of and in the said MINE. JOSEPH ROBERTS, Truro

(For R. W. Childs, Plaintiff's Solicitor, 25, Coleman-street, London).

Dated Registrar's Office, Truro, September 11, 1861.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

In the Cause of PAINTER v. CHAPMAN AND OTHERS.

IN RE GREAT WHEAL ALFRED MINE.

TO BE SOLD, pursuant to two several Orders made in the above-mentioned Cause, and dated respectively the 18th day of May and the 1st day of July last, BY PUBLIC AUCTION, at the Registrar's office, Truro, on Wednesday, the 25th day of September inst., at Twelve o'clock at noon precisely—

20 (5120th) SHARES of the defendant Richard Chapman; and

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Of and in the said MINE. JOSEPH ROBERTS, Truro

(For R. W. Childs, Plaintiff's Solicitor, 25, Coleman-street, London).

Dated Registrar's Office, Truro, September 11, 1861.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

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Dated Registrar's Office, Truro, September 11, 1861.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

In the Cause of PAINTER v. CHAPMAN AND OTHERS.

NORTH DOWNS AND WHEAL ROSE MINE.

FOR SALE, BY PRIVATE CONTRACT, in One Lot, all those VALUABLE and newly erected ENGINES and MACHINERY, with every requisite for carrying on the mine on a very extensive working, viz.:—

ONE 80 in. PUMPING ENGINE, with FOUR BOILERS, 11 tons each.

ONE 24 in. STEAM WHIM and CRUSHER, and ONE BOILER, 10 tons, in first-rate condition.

Capstan and shears, cat head.

200 fms. 16 in. capstan rope, new.

160 fms. of 7, 15, and 16 in. rods.

160 fms. of pitwork, from 12 to 19 in., with bottoms complete.

5 tons of strapping plates, all of hammered iron.

9 tons of tramroad iron.

400 fms. of wood ladders.

Bucket rods, double and single winches, beam and scales, gunpowder, tallow, candles, oil, nails, material house, saw house, grindstone, 6 anvils, 4 smiths' bellows, 2 cranes, 1 vice, smiths' tools, miners' tools, screw stocks, taps and plates, 16 horse whim kibbles, 12 winze ditto; also the account-house furniture.

Sealed tenders will be received by Mr. R. GREENWOOD, the purser, at his office, Truro, for the whole, in One lot, on or before Tuesday, the 24th inst.

For viewing the same, apply to Capt. M. JENKIN, on the mine; Capt. J. VIVIAN, North Roscar, Camborne; or to Mr. R. GREENWOOD, Truro.

Truro, September 12, 1861.

TO CAPITALISTS AND OTHERS.

TO BE SOLD, BY PRIVATE CONTRACT, with immediate possession, the FENCE COLLIERY, at the Woodhouse Mill station on the Midland Railway. The shafts are sunk down to and working the High Hazle seam of coal, and the colliery is at the present time capable of producing from 150 to 200 tons a day.

The colliery is very favourably situated, in close proximity to the Midland and Manchester, Sheffield, and Lincolnshire Railway, and in the immediate neighbourhood of Sheffield and the manufacturing districts adjoining.

The celebrated thick, or Barnsley seam of Yorkshire exists under this property at a moderate depth, and a very favourable opportunity presents itself for the establishment of a colliery upon this seam at a comparatively small outlay.

The whole of the plant, machinery, and cottages, &c., may be taken.

Further particulars may be obtained from, and offers will be received by, Messrs. RYLAND and MARTINEAU, solicitors, Birmingham; or Messrs. WOODHOUSE and JEFFCOCK, civil and mining engineers, Derby.

NORTH WALES—SLATE QUARRYING PROPERTY.—The UNEXPRIED TERM of a LEASE of a FIRST-CLASS MINERAL PROPERTY TO BE DISPOSED OF, in the neighbourhood of FESTINIOG.—For further particulars, apply to Mr. W. R. WILLIAMS, mining engineer and mineral surveyor, Dolgelly, North Wales.

VALUABLE PLASTER MINES AND LAND, AT CHELLASTON, DERRYSHIRE.—TO BE LET, BY TENDER, for the term of seven years, from the 1st day of November, 1861, all those well-known and LUCRATIVE MINES of PLASTER, now in full work, situate in the parish of CHELLASTON aforesaid, and about four miles distant from the town of DERBY, with a COMMODIOUS WHARF and BUILDINGS thereon, lying by the side of the Derby Canal at Shilton Bridge, and adjoining the turnpike-road leading from Chellaston to Derby. And also about FORTY ACRES of PASTURE and ARABLE LAND, with a COTTAGE thereon, lying over the said mine and contiguous thereto.

The above mines have been worked by the late Mr. George Wootton for a considerable period, and the plaster raised therefrom is of a very superior quality, and commands an extensive sale. The present connection is large, and highly respectable. A good road leads from the mines to the said turnpike-road, the former being distant about 1½ mile from the aforesaid wharf; and a wharf on the Trent and Mersey Canal may be rented if wished.

The lessee will be required to take to the steam-engine and pump now in use at the mines at a valuation, and to find satisfactory security for the payment of the rents, and for the due observance of the covenants and stipulations to be contained in the lease.

The rent to be paid for the plaster will be a royalty per (standard) ton for each of the different qualities of plaster worked and got, the lessee at the same time binding himself to pay a fixed minimum rent, and the tender should be made in the alternative—viz., either to pay a separate royalty per ton for each quality of stone, or an average royalty per ton for all qualities.

Tenders, specifying the royalties offered in respect of the plaster, the minimum rent offered, and the rent offered in respect of the land, cottage, wharf, and buildings are required to be sent to Messrs. E. and T. FISHER, solicitors, Ashby de la Zouche, on or before the 30th day of September, 1861.

The proprietors do not bind themselves to accept the highest or any other tender.

It is probable that about 20 acres of additional pasture land may be let from year to year with the before-mentioned land if desired.

To view the mines and premises, application should be made to Mr. JAMES PIMM, of Chellaston; and any further information may be obtained of Messrs. WOODHOUSE and JEFFCOCK, mineral agents, Derby; or of Messrs. E. and T. FISHER, solicitors, Ashby de la Zouche.

TO BLACKSMITHS, CHAIN MAKERS, FOUNDERS, AND OTHERS.

TO BE SOLD, BY PRIVATE CONTRACT, all that BLOCK of well and recently built PROPERTY on the NORTH SIDE of WEAR STREET to the CORNER of HUDDLESTON STREET, MONKWEARMOUGH SHORE, near the Ferry Landing, consisting of six shops, Nos. 73, 74, 75, 76, 77, and 78, and offices above, with separate entrance from Huddleston-street, and smiths' large jobbing shop, with nine fires adjoining; in the Back-row, chain makers' shop, with eleven fires, testing machine, and steam-engine attached; an excellent foundry, with two cupolas, cranes, engine, fire blast, and all necessary apparatus; on the opposite side of Back-row are a stable, iron warehouse, foreman's office, hay-loft, and fitting, drilling, and pattern shops, with necessary machines.

The above premises are adjacent to the River Wear, and form one of the best works of the kind, in a first-rate business situation.

For further particulars, apply to Messrs. A. J. and Wm. MOORE, solicitors, 4, Bridge-street.—Sunderland, August 28, 1861.

NEW COLLIERY, NAILSEA, NEAR BRISTOL.—FOR SALE, BY PRIVATE CONTRACT, the WHOLE of the PLANT and MATERIALS at the above colliery, comprising—

ONE HIGH PRESSURE DIRECT ACTING PUMPING ENGINE, cylinder 45 in. in diameter, and 16 in. stroke.

ONE HIGH PRESSURE WINDING ENGINE and gear, cylinder 12 in. diameter.

ONE HIGH PRESSURE WINDING ENGINE, cylinder 16 in. diameter.

THREE CYLINDRICAL BOILERS, 41 ft. by 6 ft.

ONE CYLINDRICAL BOILER, 18 ft. by 4 ft.

ONE CYLINDRICAL BOILER, 20 ft. by 3 ft. 6 in.

Hammered iron pumping cranks, T bobs, 19 in. 14½ in., 5½ in., 5 in., and 4½ in. forcing, lifting, and hand pumps; hammered iron straps, double straps and tail joints, buckets, clacks, wrought-iron eister, lifting screws, chains, large capstan, double-power crav, 80 fms. 10½ in. capstan rope, 8 in. capstan and other ropes, blocks, boring tools, wrought-iron air pipes, tram plates, smiths' bellows and tools, wagons, carts, &c.

To view, apply at the colliery; and for all further particulars, to BODDAM CASTLE, Esq., No. 29, Corn-street, Bristol.

TO BE LET, for such a term as may be agreed on, from 25th March next, the LONG BENTON COLLIERY, near Newcastle-on-Tyne, the property of the Right Hon. the Earl of Carlisle.

At this colliery the High Main Seam has been carefully tubbed off, and the shafts sunk to the Low Main Seam, which is now in working.

The engines, screens, and other stock upon the colliery may be taken at a valuation.

Further information can be obtained on application to M. LIDDELL, Esq., Hedgefield, Newcastle.—September 2, 1861.

HORIZONTAL STEAM ENGINES FOR SALE, one each of 14, 17, and 20 in. cylinders, 36 in. stroke, quite new. They are especially adapted for mining purposes, and are very substantially made. Also, several of from 6 to 8 horse power.—Apply to Messrs. E. PAGE and Co., Engineers, Laurence Pountney-place, Laurence Pountney-hill, Cannon-street, E.C.

FOR SALE, STEAM ENGINE, CRUSHER, HAULING MACHINE, PUMPS, AND CONNECTIONS.—A first-rate 20 inch cylinder HORIZONTAL CONDENSING STEAM ENGINE, with 7 ton boiler and outfit complete, fly-wheel, 5 ft. stroke. CRUSHER, 24 in. diameter, rolls and connections for HAULING and PUMPING MACHINERY, and connections, by Messrs. Nicholls, Williams, and Co. Also, two metal pumps, 8 in. bore, about 34 fms., in 23 joints, with slack setting and rods, and prongs, complete; and a 6 in. bore, 18 fms., also complete. All nearly new, and in good condition.—For particulars, apply to Mr. RICHARD PEARS, Ennis, Ireland.

TO COAL OWNERS AND COKE BURNERS.

MACKWORTH'S PATENT COAL WASHER, OR PURIFIER.—This MACHINE will EXTRACT the SHALE and ALL HEAVY IMPURITIES from SMALL COAL at a COST of TWOPENNY PER TON.—For particulars and reference, apply to the makers, A. and T. PAY, Temple-gate Works, Bristol; or to Mr. JOS. RIDER, Basinghall-street, Leeds.

TO COLLIERY PROPRIETORS.—IMPROVED SELF ACTING TIPPLERS AND SCREENS, for LOADING COALS at the PITS with dispatch, and ENTIRELY PREVENTING BREAKAGE. Manufactured by WILLIAMS and MOWLE, Egerton-street Foundry, Chester, where models and testimonials may be seen, and every information obtained. Prices moderate. Delivered at any railway station.

COAL.

Just published in 12mo., price 2s.

OUR BLACK DIAMONDS: THEIR ORIGIN, USE, AND VALUE. By THOMAS PLIMSOUL. With illustrations on wood. London: John Weale, 59, High Holborn, W.C.

GEOLOGICAL MAPS.

A GEOLOGICAL MAP OF ENGLAND AND WALES. By SIR RODERICK I. MURCHISON, D.C.L., &c. Fourth Edition. Scale, 28 miles to the inch. Beautifully Coloured. Sheet, 5s.; mounted in case, 7s.

A GEOLOGICAL MAP OF ENGLAND AND WALES. By ANDREW RAMSAY, F.R.S. and F.G.S., &c. Scale, 12 miles to the inch. Beautifully coloured. Sheet, £1 1s.; in case, £1 5s.; on rollers, £1 10s.

As regards maps, the novice in this country will find the guide he requires in the beautiful map of England and Wales, by Prof. RAMSAY, which contains in a condensed form the result of the labours of many men, continued through half a century.—*Quarterly Review.* London: Edward Stanford, 6, Charing-cross, S.W.

RAILWAY WAGONS.—WILLIAM A. ADAMS AND CO., MIDLAND WORKS, BIRMINGHAM.
BROAD AND NARROW GAUGE COAL AND IRONSTONE WAGONS.
IN STOCK—FOR SALE OR HIRE.

RAILWAY WAGONS.—JONATHAN KETLEY, SOHO CARRIAGE AND WAGON WORKS,
NEAR BIRMINGHAM.
ALL DESCRIPTIONS OF RAILWAY WAGONS FOR SALE OR HIRE.
MANUFACTURERS OF ALL KINDS OF RAILWAY IRONWORK.

RAILWAY WAGONS.—WILLIAM HARRISON AND CAMM
HAVE ON HAND RAILWAY, COAL, COKE, AND MINERAL WAGONS,
ON SALE OR HIRE.
AT THE ROTHERHAM WAGON WORKS, MASBRO.

THE BIRMINGHAM WAGON COMPANY (LIMITED) HAS
RAILWAY WAGONS FOR HIRE.
Apply to the SECRETARY, 3, Newhall-street, Birmingham.

THE RAILWAY CARRIAGE COMPANY,
OLDBURY, NEAR BIRMINGHAM.
MANUFACTURERS OF EVERY DESCRIPTION OF RAILWAY PLANT AND IRONWORK.
NEW AND SECOND-HAND RAILWAY WAGONS ALWAYS IN STOCK
FOR SALE OR HIRE.
LONDON OFFICES, No. 1, MOORGATE.

JOB TAYLOR AND CO., SWAN FOUNDRY,
OLDBURY, NEAR BIRMINGHAM.
SOLE PROPRIETORS OF HINTON'S PATENT CUPOLA, WHICH CONSUMES FIFTY PER CENT. LESS COKE than any cupola yet invented. MAKERS of ALL KINDS of MACHINERY connected with the GRINDING and TEMPERING of EVERY SORT of CLAY or MARL, and for the MANUFACTURE of BRICKS, TILES, DRAIN PIPES, &c. Also, of HIGH and LOW PRESSURE STEAM ENGINES of any dimensions, and of GENERAL MACHINERY.

JAMES RUSSELL AND SONS, CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
WAREHOUSE, 81, UPPER GROUND STREET, BLACKFRIARS, LONDON, S.
The Original Inventors and First Manufacturers of the Patent Wrought-Iron Tubes for Gas, Steam, Water, &c. Enamelled Tubing, and Glazed ditto. Russell and Howell's Homogeneous Tubes. And agents for G. F. Muntz's Solid Brass Tubes. Every variety of fittings. Trade mark.

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BIRMINGHAM,
MANUFACTURERS OF PATENT LAP-WELDED IRON TUBES, FOR LOCOMOTIVE, MARINE, AND STATIONARY BOILERS.
IMPROVED HOMOGENEOUS METAL TUBES.
ALL DESCRIPTIONS OF TUBES AND FITTINGS FOR GAS, STEAM AND WATER, PLAIN, GALVANISED AND ENAMELLED.

SHORTRIDGE, HOWELL, AND CO., HARTFORD STEEL WORKS, SHEFFIELD, SOLE MANUFACTURERS of HOWELL'S PATENT HOMOGENEOUS METAL PLATES FOR BOILERS, LOCOMOTIVE FIRE BOXES, and TUBES, COMBINING the STRENGTH of STEEL with the MALLEABILITY of COPPER. RUSSELL and HOWELL'S PATENT CAST STEEL TUBES. McCONNELL'S PATENT HOLLOW RAILWAY AXLES.—For prices and terms, apply to SHORTRIDGE, HOWELL, and Co., Hartford Steel Works, Sheffield; or Messrs. HARVEY and Co., 12, Haymarket, London.

CORNISH BORER STEEL.—Upwards of ONE HUNDRED AND SIXTY MINES are SUPPLIED with this STEEL, and the DEMAND for it is RAPIDLY INCREASING.—For terms, apply to R. MUSHET and Co., Forest Steel Works, near Coleford, Gloucestershire.

CYANOGEN STEEL, CAST STEEL, SHEAR STEEL, and IMPROVED FOREST BLISTER STEEL supplied to order by ROBERT MUSHET and Co., Forest Steel Works, near Coleford, Gloucestershire.
Address to the Works, Coleford.

FARRAR'S PATENT STEEL COMPANY, WARDSEND STEEL WORKS, SHEFFIELD, MANUFACTURERS of BEST CAST STEEL, MALLEABLE and MILD STEEL CASTINGS, SUPERIOR CAST-STEEL FILES, &c., CALL the ATTENTION of ENGINEERS and all users of FIRST-CLASS STEEL to the GREAT SUPERIORITY of STEEL MANUFACTURED under this PATENT. Prices:

First quality £50 per ton.

Second quality 40 "

Third quality 30 "

LONDON OFFICE, 21, BOW LANE, CANNON STREET WEST, E.C., Where all communications are to be addressed.

LESLIE'S PATENTS: GAS AND COKE FROM COMMON COAL GREATLY INCREASED IN VALUE. 60, Conduit-street, London, W.

LESLIE'S PATENTS: UP TO FORTY CANDLE GAS. 60, Conduit-street, London, W.

LESLIE'S PATENTS: LICENSES for ENGLAND, SCOTLAND, and IRELAND, the 86 Departments of FRANCE, and BELGIUM. 60, Conduit-street, London, W.

LESLIE'S PATENTS: THE NATIONAL WASTE HEAPS AT COLLIERIES UTILISED FOR GAS PURPOSES. 60, Conduit-street, London, W.

COALS.—GEORGE J. COCKERELL AND CO. Coal Merchants to Her Majesty. Cash, 25s. per ton. Best coals only. Central Office, 13, Cornhill, E.C.

GEORGE J. COCKERELL AND CO. Eaton Wharf, Grosvenor Canal, and Office, 1a, Lower Belgrave-place, Pimlico, S.W.

GEORGE J. COCKERELL AND CO. Purfleet Wharf, Earl-street, Blackfriars, E.C.

GEORGE J. COCKERELL AND CO. Sunderland Wharf, Peckham Canal, S.E.

CREASE'S PATENT EXCAVATING MACHINERY, for SUPERSEDING the SLOW and EXPENSIVE USE of MANUAL LABOUR in SINKING SHAFTS, DRIVING LEVELS, TUNNELLING, &c., is guaranteed to drive through any rock of average hardness at a minimum rate of 1 fm. per diem, and to sink shafts at the rate of 2 fms. in three days.

Mr. CREASE will undertake contracts to sink shafts and drive levels through any description of rock, at an enormous reduction in time and cost.

Applications to be addressed to Mr. GEORGE T. CURTIS (sole agent), 17, Gracechurch-street, London, E.C.

By providing the power of calculating the time and cost to explore a certain depth and extent of ground, speculation in mining will be assimilated to commercial pursuits, with this unmistakable advantage—that when the ground has been once carefully and judiciously selected, and operations properly and systematically carried out for its development, there would be far less chance of unsatisfactory results than are met with by merchants and manufacturers in the usual routine of their business. As this important invention must beneficially interest the landowners, mine proprietors, merchants, and miners, we hope it will meet with immediate adoption.—*Mining Journal.*

THE SLATE MOUNTAIN COMPANY (LIMITED). NOTICE OF DIVIDEND.

The Directors of the above company hereby give notice that they have concluded an arrangement with a thoroughly responsible party to undertake the management of the company's operations in Wales; and have, at the same time, to inform the public that the MANAGER has undertaken to GUARANTEE to all shareholders in the company a DIVIDEND for the FIRST YEAR, and has lodged with the company's bankers an amount of cash more than sufficient to cover his guarantee.

Offices, 4, Lothbury, E.C.

By order, A. MAYOR, Sec.

THE SLATE MOUNTAIN COMPANY (LIMITED). Capital £30,000, in 6000 shares of £5 each.

THE MINING SHARE LIST.

DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.
4000 Bedford United (copper), Tavistock	2 6 8.. 5	4 1/4 4 1/4	12 8 6.. 0	1 6-Sept.	1861	
2400 Boscombe (tin), St. Just	20 10 0.. 50	..	33 0 0.. 1	1 10 0-May	1861	
2000 Botallack (tin, copper), St. Just	91 5 0.. 240	..	443 5 0.. 2	10 0-Feb.	1860	
1000 Carn Bras (copper, tin), Illogan	15 0 0.. 774	75 80	269 10 0.. 2	0 0-Feb.	1861	
2048 Carnyorth (tin, St. Just)	3 10 0.. 134	..	19 6.. 0	2 0-Sept.	1860	
2000 Cefn Cwm Brynwy (lead), Cardigan	33 0 0.. 33	..	9 0.. 4	0 0-April	1861	
5000 Conneras (copper, sulphur) [L.]	1 0 0.. 134	134	0 0.. 9	0 0-July	1861	
2450 Cook's Kitchen (copper), Illogan	17 0 9.. 32	30 31	13.. 0 0.. 5	3 0-Sept.	1861	
12000 Copper Miners of England	25 0.. 26	..	7 1/4 percent.	Half-yearly		
350000 Ditto ditto (stock)	100 0.. 24	..	1 percent.	Half-yearly		
1055 Craddock Moor (copper), St. Cleer	8 0.. 26	20 25	5 13 0.. 0	5 0-July	1861	
867 Cwm Erfin (lead) Cardiganshire	7 10 0.. 16 1/2	..	5 8 0.. 1	0 0-June	1861	
128 Cwmystwyth (lead), Cardiganshire*	60 0.. 240	..	227 10 0.. 5	0 0-May	1861	
280 Derwent Mines (all-lead), Durham	300 0.. 180	..	142 0.. 5	0 0-June	1861	
1024 Devon Gt. Con. (cop.), Tavistock [S.E.]	1 0.. 350	350 360	167 0.. 7	0 0-Sept.	1861	
358 Dolcoath (copper, tin), Camborne	128 16.. 510	..	633 10 0.. 7	0 0-Aug.	1861	
612 East Bassett (cop.), Redruth [S.E.]	25 10 0.. 85	..	87 0.. 5	0 0-July	1861	
614 East Cadron (copper), St. Cleer [S.E.]	2 14 6.. 26 1/2	27	1 0 16.. 0	0 0-July	1861	
300 East Darren (lead), Cardiganshire*	32 0.. 67	..	77 10 0.. 1	0 0-Aug.	1861	
2048 East Wheal Lovell (tin), Wendron	2 10 0.. -	..	5 0.. 5	0 0-July	1859	
1400 Evans Mining Co. (lead), Derbyshire	5 0.. 0	..	20 3.. 4	0 0-May	1861	
4940 Fowey Consols (copper), Twardreath	4 0.. 5	..	41 9 3.. 0	2 0-June	1860	
2560 Foxdale, Isle of Man, Limited (lead)	22 0.. 35	..	61 8.. 3	1 0-0-Dec.	1860	
5000 Frank Mill (lead), Devon	3 18 6.. 41	4 4 1/4	0 14 0.. 0	3 0-Sept.	1861	
6000 Great South Tolgas [S.E.], Redruth	14 6.. 14	4 1/2	7 13 6.. 0	0 5-Feb.	1861	
4900 Great Wheal Fortune, Breage	18 6 0.. 15 1/4	14 1/4 15 1/4	1 0.. 0	0 0-July	1861	
5000 Great Wh. Vor (tin, ep.), Helston [S.E.]	40 0.. 6	6	12 0.. 6	0 7-Sept.	1861	
1024 Herodsfoot (id.), near Liskeard [S.E.]	8 10 0.. 36	..	31 36	14 10 0.. 2	0 0-June	1861
1000 Hibernal Mine Company	92 6.. 2	..	7 10 0.. 0	0 15-Sept.	1861	
160 Levant (copper, tin), St. Just	2 10 0.. 95	..	1091 0.. 0	5 0-May	1860	
4000 Liblorne (lead), Cardiganshire, Wales	15 15 0.. 125	..	375 10 0.. 2	0 0-Aug.	1861	
9000 Marke Valley (copper), Cardon	4 10 6.. 10 10 1/2	10 10 1/2	1 1 0.. 0	5 0-July	1861	
5000 Mendip Hills (lead) [L.], Somerset	3 15 0.. 14	..	2 1 0.. 0	2 0-May	1860	
1800 Minera Mining Co. [L.], (id.), Wrexham	25 0.. 180	..	75 0.. 9	4 0-Aug.	1860	
2000 Mining Co. of Ireland (cop., lead, coal)	7 0.. 0	14 1/4	14.. 0.. 0	10 0-May	1861	
640 Mount Pleasant, Mold	4 0.. 0	25	14.. 7.. 0	10 0-Sept.	1861	
6000 New Birch Tor and Vitter Consols	1 6 6.. 24	2 2 1/4	0 3.. 6	0 15-Sept.	1861	
6000 North Downs (copper), Redruth	2 3 4.. 6	5 1/2 6	0 2.. 6	0 2-Aug.	1861	
1366 North Grangler, Redruth	2 7 6.. 6	..	0 10 0.. 0	10 0-Mar.	1861	
6000 North Great Work, Breage	1 3 0.. 4	4 1/2	0 2.. 0	2 0-May	1860	
5000 Orsadd (lead), Flintshire	0 8 0.. 12	14	0 6.. 0	9 0-Mar.	1861	
640 Par Consols (cop.), St. Blazey [S.E.]	1 2 6.. 9	9 1/2 8 1/2	36 4.. 6	0 5 0-July	1861	
200 Parrys Mines (copper), Anglesey [L.]	50 0.. 0	..	7 10 0.. 2	10 0-April	1861	
200 Phoenix (copper, tin), Linkinhorne	10 0.. 435	..	449 10 0.. 55	0 0-May	1861	
1772 Poldro (tin), St. Agnes	..	5	6 9.. 6	0 15-April	1861	
1120 Providence (tin), Uly Lelant [S.E.]	10 6.. 7	44	41 43	6 15 0.. 1 0-Aug.	1861	
16 Rhosmear	50 0.. 0	..	1250 0.. 100	0 0-0	..	
512 South Cadron (cop.), St. Cleer [S.E.]	1 5.. 308	295 305	351 0.. 5	0 0-July	1861	
612 South Tolgas (cop.), Redruth, Cornwall	8 0.. 8	25 30	102 10 0.. 1	0 0-April	1861	
496 South Wheal Frances, Illogan [S.E.]	18 18 9.. 117	115 120	856 5.. 0	1 0-Sept.	1860	
280 Speare Moon (tin, copper), St. Just	31 17 9.. 5	91 15.. 0	1.. 0.. 0	1 0-June	1861	
910 St. Ives Consols (tin), St. Ives	8 0.. 32	32 1/2 35	484 0.. 0	1 0 15-May	1861	
9600 Tamar Con. (sl.-id.), Beerston [S.E.]	4 10 0.. 155	5 6.. 0	2 0 2-Jun	1861		
6000 Tincroft (cop.), Pool, Illogan [S.E.]	9 0.. 6	6 1/2 6	10 8.. 6	0 5-Feb.	1861	
6000 Tivoli (copper), Marazion	..	24	13.. 0.. 6	0 3-Mar.	1860	
572 Trelyon Consols (tin), near Helston	57 10 0.. 100	..	7 0.. 0.. 0	10 0-Sept.	1860	
200 Trumpet Consols (tin), near Helston	57 10 0.. 17	..	52 0.. 0.. 2	0 0-May	1861	
1024 Wendorth Consols (tin), Wendron	11 13 10.. 14	14 16	8 15 0.. 1	0 0-Jan.	1861	
6000 West Bassett (copper), Illogan [S.E.]	1 10 0.. 17	..	21 15 0.. 0	5 0-July	1861	
6000 West Burton Gt. (lead), Yorkshire	50 0.. 0	..	14 10 0.. 3	0 0-June	1861	
1024 West Cadron (cop.), Liskeard [S.E.]	5 0.. 42	45 46	98 1 3.. 1 10 0-July	1861		
256 West Damset (copper), Gwennap	37 0.. 58	..	45 4.. 1 0.. 0	5 0-May	1860	
6400 West Fowey Consols (tin and copper)	7 10 0.. 6	4 4 1/4	0 14 0.. 0	2 0-May	1861	
4000 W. Wh. Seton (cop.), Camborne [S.E.]	47 10 0.. 340	325 335	315 0.. 7	0 0-Aug.	1861	
512 West Bassett (copper), Illogan [S.E.]	5 2 6.. 87 1/2	572 10 0.. 2	0 0-Aug.	1861		
256 West Fowey Consols (tin, copper), Illogan	5 0.. 90	929 0.. 2	0 0-May	1861		
2900 Wh. Clifford Amalgamated (copper), Owen	39 0.. 30	..	16 0.. 0	..	Aug.	1861
2000 Wh. Falmouth and Speirs	2 5 0.. 8	..	0 10 0.. 0	10 0-Feb.	1861	
128 Wh. Friend (copper), Devon	50 0.. 90	..	2400 10 0.. 5	0 0-Feb.	1861	
512 Wh. Jane (silver-lead), Kew	3 10 0.. 18	..	10 10 0.. 1	0 0-Feb.	1860	
1024 Wh. Kitty (tin), Uly Lelant [S.E.]	1 7.. 2.. 7	6 1/2 7	8 0.. 0.. 0	10 0-Sept.	1860	
4800 Wh. Luddoc (lead), St. Ives	2 10 8.. 3	3 3/4 3 1/4	1 8 0.. 0.. 0	4 0-July	1861	
896 Wh. Margaret (tin), Uly Let. [S.E.]	9 17 6.. 46	43 45	69 0.. 0.. 1	0 0-Aug.	1861	
100 Wh. Mary (tin), Lelant	36 2 6.. 440	280 5.. 0	7 0.. 0.. 0	0 0-June	1860	
1024 Wh. Mary Ann (id.), Menheniot [S.E.]	8 0.. 10.. 10	12 13	54 7.. 6.. 0	10 0-Sept.	1861	
80 Wh. Owles, St. John, Cornwall	70 0.. 300	..	280 13 0.. 5	0 0-Aug.	1861	
8000 Wicklow (copper) [L.], Wicklow	5 0.. 6.. 59	..	41 17 6.. 12 2.. 6	12 2.. 6-Mar.	1861	

[* Dividends paid every two months. † Dividends paid every three months.]

MINES WITH DIVIDENDS IN ABEYANCE.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.
700 Aberdovey (silver-lead), Merioneth	1 10 0.. 30	..	0 10 0.. 0	0 10 0-Mar.	1859	
5120 Alfred Consols (cop.), Phillack [S.E.]	3 3 6.. 1	..	20 3 0.. 0	2 0-April	1859	
1624 Balaeswiden (tin), St. Just	11 15 0.. 19	..	12 5 0.. 0	5 0-Jan.	1854	
1200 Brightside & Froggatt Grove, Derbyshire	3 0 0.. 3	3/4	3 0 0.. 0	3 0-April	1856	
2000 Brynford Hall (lead), Flintshire	15 10 0.. 23	18 20	14 0 0.. 2	10 0-Oct.	1860	
2500 Central Minera (lead) [L.]	0 15 0.. 54	..	0 4 0.. 0	4 0-April	1859	
6000 Charlotte United, Perranuthnoe	2 8 2.. 1	1	0 12 0.. 0	1 0-Sept.	1859	
2000 Collcombe (copper), Lamerton</						